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THE DIAGNOSIS OF TYPHOID FEVER.*

BY J. E. GRAHAM, M.D.,
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There is no subject in the practice of medicine of greater importance than the study of typhoid fever. The disease is so prevalent in all parts of our country, occurring with almost equal frequency in crowded cities and in country districts, in the cottages of the poor and in the palaces of the rich, that none of us can afford to lose any opportunity whereby we may increase our knowledge of its various phases. Moreover, there is no disease the study of which more amply repays the physician, because in none other is the management of greater importance to the welfare of the patient.

Many affections, such as tuberculosis and carcinoma, are of great importance on account of their frequency, and of the mortality which attends them. When, however, we meet with advanced cases of these diseases, the fatal result is so inevitable that the management is simply of a palliative character.

In typhoid fever, on the other hand, no case, except one absolutely

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moribund, is so hopeless as not to draw upon every resource of which the physician is possessed to bring about a favorable result. It may also be safely stated that no part of the study of typhoid is of greater importance than the diagnosis. It is necessary to arrive at a correct conclusion on this point as early as possible in the course of the disease, so that an appropriate plan of treatment may be adopted.

Moreover, many affections with which typhoid may be confounded in its early stages require a form of treatment quite different from that for the disease under consideration. Typhoid fever I look upon as a disease produced by a distinct virus, probably of bacterial origin, which finds its way into the human system through the alimentary canal. The almost constant effects are the elevation of temperature, and the inflammation of Peyer's patches and the solitary glands of the intestine.

Instead of giving a systematic dissertation on the diagnosis of the affection, I shall rather take up the difficulties which have occurred to me, hoping that in the discussion other points which I have omitted may be referred to. One of these difficulties is to distinguish between typhoid and tubercular meningitis in children. After a careful examination into every particular, the distinction is made in most cases with comparative ease. We have in meningitis the irregular pulse, the retracted abdomen, the constipation and the occurrence of those nervous phenomena which follow the brain lesions. I have, however, seen cases of meningitis which so closely resembled typhoid that a conclusion could not be arrived at until the peculiar nervous phenomena appeared.

In typhoid fever there is a peculiarity in the delirium. It does not deepen into coma. The headache which may be a very prominent feature at the onset of both diseases usually disappears in four or five days in typhoid. In the latter disease, one authority states there is often an interval between the cessation of the headache and the commencement of the delirium. In tubercular meningitis there is no such interval.

In some cases of typhoid the pain in the back of the neck is so severe and continuous, and may be accompanied by such nervous symptoms, as to lead the attending physician to look upon the case as one of cerebro-spinal meningitis. If, however, he carefully watches for the development of the usual signs of typhoid, he will not long be left in doubt.

There are a great variety of nervous symptoms which are often so prominent as to completely mask the real disease.

The following case is a marked example of this. I shall give in detail, as I was led astray completely during the greater part of the illness: M.F., bank clerk. Called to see me May 19, 1892. The patient when a child suffered from brain symptoms. He was often irritable, and had the habit of burying his head in the pillow. He had diphtheria when he was ten years of age. During the past winter he lost a good deal of sleep, going out to evening parties. He, at the same time, was actively engaged in athletic exercises. About a month ago the patient began to feel drowsy during the daytime, and would go to sleep as soon as he came home from work. Shortly afterwards he was noticed to fall asleep during working hours, and made frequent mistakes in his calculations. These occurred so often that he had to be sent home. When I first saw him he complained of languor and inability to work, but did not say anything about his sleepy spells. I prescribed a quinine mixture. He went to the druggist, and while waiting for the medicine he fell asleep on the chair.

On May 24th he called again, and seemed much worse. He had great difficulty in keeping awake. Pulse and temperature normal. Was called to see him in the evening. He had slept nearly all day, and when waked up he had spells of delirium which lasted about half an hour.

During the following week he remained in much the same condition. He slept twenty-two hours out of the twenty-four, and when awake he would answer questions rationally, but acted in a childish manner. One of his principal occupations was biting a rubber ring. He would scratch his face, if allowed to do so, and would gaze at himself in a mirror for quite a long time. Tremor of arms and legs were present. His pulse was generally under sixty, and his temperature was normal. Dr. Workman saw him with me, and we were both inclined to look upon the case as one of those rare instances of narcolepsy.

On May 31st, his pulse increased in frequency to about 100, and the temperature rose to 99½°.

June 1st. He exhibits the same vacant expression as before, but answers questions in a fairly rational way, although slowly.

June 2nd. Patient had a bad night. Pulse 130, temperature 99 6°. There is a slight rigidity of the muscles of the arms and legs. The hands are clenched, and there is some difficulty in opening them. He had this morning a severe tonic spasm. His intellect seems clearer, and he can open his eyes much better than yesterday. He has difficulty in swallowing. Bowels constipated. Profuse perspiration. He does not suffer any pain whatever. At 2 p.m. I noticed a slight hiccough after taking food. Pulse 120, temperature 99⅘°. Spasms of muscles of the arms still continue. He will sometimes answer questions a long time after they are asked. In one instance three quarters of an hour intervened between the question and the answer. I notice for the first time distension and tympanites of the abdomen.

June 3rd. For about two hours during the night his mouth and tongue were drawn to the right side. Passed urine involuntarily. He is quite conscious to-day. Pulse 80, respiration 16, temperature 99½°.

2 p.m. Pulse, 96; temperature, 100½°. He is quite willing to take food, but is unable to swallow it. Well-marked tremors of the arms.

7 p.m. He has slept quite soundly to-day, and could be roused with difficulty. He has spoken very little, answering questions by movements of the head. Skin reflexes much exaggerated. Noise startles him. Pulse, 82: temperature, 99½°

June 4th. He was not able to speak during the night, and has been in a profuse perspiration. Pulse, 88; temperature, 100⅖°. Pupils dilated. and occasional tremors of the whole body.

June 5th. Patient has taken very little food. He has not spoken, but will put out his tongue slowly when asked to do so. He has very marked tremors, particularly of the left arm. Skin reflexes still very marked. He died on June 6th.

A *post-mortem* examination was made eight hours after death. Brain: Great engorgement of the veins on the surface, and much softening of the brain substance. Increased amount of fluid in the ventricles. Lungs and heart normal. Liver and spleen normal in size; the latter may have been somewhat enlarged. Kidneys normal. The peritoneal surface of the intestines much congested, and the mesenteric glands enlarged. Marked typhoid inflammation, and ulceration of Peyer's patches and solitary glands of the intestine. Although typhoid fever was spoken of, a correct diagnosis was not made during life. Two of the most constant symptoms, roseola and enlargement of the spleen, were absent.

In another, the renal class of cases, as they are sometimes called, the diagnosis is at first very difficult.

Last autumn, a gentleman about fifty years of age called on me, suffering from anorexia lassitude and some slight œdema of the legs. I examined the urine, and found it loaded with albumen. The case was looked upon as one of acute nephritis, and treated accordingly. In three or four days he called again, presenting a peculiar, stupid, irritable condition. Albumen in the urine was somewhat diminished. The next day I was sent for, and found the patient in bed. I then discovered tympanites, enlargement of the spleen, and roseola; his temperature was elevated. He went through a severe attack of typhoid, and completely recovered. The urine returned to a perfectly healthy condition. No microscopical examination was made when he first called. Such cases should be closely examined, as the purgative treatment of acute nephritis might be very injurious to one suffering from typhoid.

Cases of what is called the pneumonic type are at first exceedingly puzzling, and require the most careful scrutiny. During the past winter I saw a marked instance of this variety with Dr. McCullough. The patient was seized with what appeared to be an ordinary lobar pneumonia.

Although the lung symptoms subsided, there was a continuance of the high temperature instead of the usual fall at the crisis. Typhoid fever or tuberculosis was suspected. The sputa gave no evidence of bacilli, and the urine gave the reaction with Ehrlich's test. The patient went through the usual course of typhoid, and made a complete recovery.

Perhaps there is no greater difficulty in diagnosis than the separation of malarial remittent fever from typhoid. Here we are very much assisted by an examination of the blood during an exacerbation of fever, when, if malaria is present, the plasmodium will be found in the blood corpuscles. The examination can be easily made by one who has received proper training in microscopical work.

Cases of continued fever sometimes come under our observation which differ very much from ordinary typhoid, and yet are not, so far as we can see, due to malarial or any other known poison. It has sometimes occurred to me, in attending such cases, that there may be a morbific agent different in nature both from that of typhoid or intermittent fever. A case of this kind occurred last winter, in which Ehrlich's test gave a negative result throughout. We could not, however, call it one of malarial; and the true nature of the disease was not made out.

The points which are usually given as of the greatest importance in the diagnosis of typhoid are: (1) The course of the disease: slow begining and gradual rise of temperature, with the typical daily increase; (2) enlargement of the spleen, abdominal symptoms, and roseola; (3) typhoid symptoms, such as dry tongue, sordes, cephalalgia, etc. Very frequently only two or three of these signs are present, and yet from the general history we pronounce the case one of typhoid. It must be remembered, however, that there are cases in which almost all the signs usually given may be present, and still the disease is not typhoid.

Fagge says: "In some cases the most careful clinical observations from day to day may leave one to the last in a state of doubt." A most striking instance of this kind occurred in the hospital last winter. The patient, a man of thirty-five years of age, was sent in as a case of typhoid. An examination was made into the previous history and present condition of patient as carefully as possible. He came to the hospital in a partial state of stupor, and did not answer questions readily. He had been ill ten days, suffering from anorexia, general weakness, and fever of a continued character. When examined his tongue was dry and cracked; his teeth were partly covered by sordes. Abdominal tympanites, with distinct tenderness in the right iliac fossa, as well as enlargement of the spleen, were present. The rose-colored spots were not found in the anterior aspect of the abdomen: but near the spine were some which we considered typical. Three days after he entered the hospital the patient had a severe intestinal hemorrhage, which did not, however, lower the temperature. On the following night he had a fatal attack of hæmatemesis. The temperature chart made during the few days he was in the hospital showed a daily rise of between one and two degrees.

On *post-mortem* examination no typhoid lesion could be discovered. The spleen was examined for the bacillus, with negative results. The liver was cirrhosed, and a small amount of fluid was found in the abdominal cavity. Some enlarged mesenteric glands were found, one of which, in a state of suppuration, was situated near the right iliac region, and was no doubt the cause of the localized tenderness. Another centre of suppuration was found near the under surface of the liver. The spleen was very much enlarged, but, as said before, no typhoid bacilli were found in it, although a careful examination was made for them by Dr. John Caven. We have here a case presenting nearly every one of the diagnostic features laid down by the best authorities, and still typhoid was not present.

In a case of pyæmia, sent in as typhoid, we had the greatest difficulty in making a diagnosis. It is possible that if we had paid full attention to the observation of Liebreich, who says of typhoid, "The more one believes in the possibility of error, the surer he will be to avoid mistake," we might have arrived at more correct conclusions. Most of our errors are made by a too rapid and insufficiently thorough examination into every feature of the case. When typhoid is prevalent, we are too prone to put down every case of continued fever as one of typhoid. On the other hand, when there have been no cases of that disease in the neighborhood, its presence may not occur to us at first. Upon reading the history of such doubtful and obscure cases as have been given, one is impressed with the thought that the general practitioner ought to have at hand some method whereby he can come to a more correct diagnosis. Of late years, through the use of the microscope, and by chemical analysis, we are in some cases enabled to do this.

There are three ways whereby much light may be thrown upon typhoid cases: (1) Ehrlich's method of examining the urine; (2) an examination of the contents of the spleen for typhoid bacilli; (3) a microscopical examination of the blood taken from typhoid spots.

Ehrlich's test has been in use for the past eight or ten years, but has not received that attention which it, in my opinion, merits. It was introduced into the Toronto General Hospital last winter.

The test is made as follows: Two solutions are kept in separate bottles. No. 1 is made out of 50 c.c. of hydrochloric acid, diluted to 1000 c.c., and saturated with sulphanilic acid; No. 2 of a solution of sodium nitrite, ½ per cent. with water. When we wish to make the test, 40 c.c. of No. 1 solution and 1 c.c. of No. 2 are mixed together in a test tube and thoroughly. The hydrochloric acid acts upon the sodium nitrite, producing nitrous acid in a nascent state. This again forms diazo benzine-sulphonic acid, by its action upon the sulphanilic acid. A small quantity of the test solution is poured into a test tube with an equal quantity of urine, then an excess of liq. ammonii is added; and in cases of typhoid fever the solution assumes a dark claret color, the color being communicated to the foam on the surface of the solution. Dr. Simons, of Johns Hopkins, recommends the introducing the liq. ammonia slowly by means of a pipette, allowing it to run down the side of the test tube and form a layer on the surface of the urine, to which the test solution has been added. A dark carmine-red color will separate the lower solution from the liq. ammonii on the surface. If the test is made in the first way described, and the solution is allowed to stand, the carmine-red disappears, and a dark-green sediment falls down. This reaction never occurs in normal urine, and is due to the presence of some peculiar aromatic compound.

So far the same reaction has been found in some cases of phthisis, leukæmia, and pernicious anæmia, as well as in cases of measles. According to Dr. Simons' observations, the reaction may be obtained without difficulty from the fifth to the thirteenth day of typhoid, and with difficulty until the twenty-second day. It is much more marked in severe than in mild cases. In the latter, it may not occur until the ninth day.

During the past winter a number of tests have been made in various diseases. In every case of typhoid the reaction was found from the fourth or fifth to the thirteenth day, and sometimes as late as the eighteenth or twentieth day. The reaction was found in some cases of phthisis. It was also found in every case of measles. Ehrlich found it also in measles.

In three or four cases where there was much doubt about the diagnosis we found the test of great assistance in clearing it up, and we also found that where typhoid was indicated the case ran the natural course of that disease.

I have already mentioned the pneumonic case of Dr. McCullough. In another, under the care of Dr. Cotton, the disease was masked by marked hysterical symptoms, and urine on the second examination gave the characteristic reaction.

The test must be made with care, and it must be remembered that in all cases a light reddish color is produced. This, however, is very different from the deep dark-red of typhoid.

The weakest point is that it does not distinguish typhoid from tuberculosis. If, however, in the latter disease, the lungs are affected, an accurate diagnosis may possibly be made by examination of the sputa for bacilli.

TUBERCULOSIS.

Presidential Address Read Before University Medical Society

By W. B. Thistle, M.D., L.R.C.P. Lond.,
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Gentlemen,—You will allow me to take this first opportunity to thank you for your kindness in asking me to be your president for the coming term. Believe me, I fully appreciate the honor you have done me, and am gratified at this evidence of your esteem. This evening I propose to take advantage of the position in which you have placed me, and instead of the customary inaugural address I shall, with your permission, devote a short time to the consideration of the disease, tuberculosis.

That this subject deserves consideration, and, indeed, demands the best efforts and most earnest study of every one of us, will be evident when one reflects upon the appalling fact that one-seventh of the entire mortality is due to this disease. That there is need of education will be apparent to every thinking man who has paid any attention to the way in which the public, and perhaps a large number of the profession, regard this affection.

This evening, then, gentlemen, I propose to place before you a *résumé*, to some extent, of ascertained facts concerning tuberculosis.

I shall pay no attention to clinical distinctions or varieties; the process being the same whether the lesion occurs in the lungs, the growing bone, the mucous membranes, or the lymph glands. What, then, is tuberculosis? It may be defined as a condition which arises when the minute vegetable organism which we know by the name of bacillus tuberculosis gains an entrance into the body, and finds the conditions favorable for its growth and development; these grow and multiply, bringing about certain changes in the tissue in which it is located, and also producing certain toxic symptoms.

Having defined the disease, one may inquire further as to the nature of this tubercle bacillus. It is, as we have mentioned, a minute vegetable organism, an unicellular body, simply a little mass of vegetable protoplasm. It belongs to the great class of fission-fungi or bacteria. These organisms exist on every hand, and are the active agents in many of the familiar processes of life, *e.g.*, fermentation, putrefaction. In fact, the breaking up of dead organic matter, whether vegetable or animal, into its original constituent elements is entirely the work of these minute organisms. The great majority of bacteria are in their action beneficent, and conserve life;

indeed, life would soon be impossible without them. Commonly, they flourish in dead organisms only, and are termed saprophytes. There are, however, a number capable of living and growing in living organisms—true parasites. To this second class belong the specific bacteria of the infective fevers, and to this class belongs the germ or bacillus we are considering. Regarding the life history of this minute plant, it is essentially parasitic, and it is with difficulty that it can be made to grow and multiply outside the living body, differing from the typhoid bacillus, for example, in this important particular; for while the latter is as truly parasitic, yet it grows luxuriantly in decaying matter. But while the tubercle bacillus will not multiply under ordinary circumstances without the living body, it still preserves its vitality for long periods, and in spite of considerable extremes of temperature and varying conditions of dryness and moisture, so that the moment it is transferred to suitable soil in the living tissue it is capable of reproducing itself. Reproduction is accomplished by spore formation in the interior of the bacillus.

So much for the little vegetable cell itself, and if there were nothing more in its life it is not likely that it would concern us much. There is, however, during the growth of the bacillus, the formation of a chemical substance which is of a highly toxic nature, and to this excretory product we attribute the tissue changes and certain constitutional symptoms seen in the disease.

This power of producing chemical substances is common to the entire class of bacteria; *e.g.*, what has been termed typho-toxing from the bacillus typhosus, cadaveric alkaloids from the germs of putrefaction, and the strychnia-like poison of the tetanus bacillus. This power possessed by the vegetable cell to produce chemical substances, in many cases of a highly poisonous nature, we are quite familiar with in the more highly organized plants; as, for example, strychnia from the nux vomica plant, atropia from the deadly night-shade, or muscarine from the toadstool.

Having seen thus briefly something of the nature and life-history of the infective agent in the disease, we naturally come to the question, how does it effect an entrance into the body, and what, in short, are the conditions favoring its lodgment and growth in the tissues? This at once brings up the much-discussed question of the inheritance or direct transmission of tuberculosis. It may be taken as already proven that such transmission from parents to offspring does take place, that children are born containing in their bodies the tubercle bacilli. The prevalence of the disease in young infants, and its location in bone, so frequently the case in young children, had pointed to the probability of the direct transmission of the germ; but the fact had not been demonstrated until Jacobi found numerous miliary tubercles in the body of an eighth-month fœtus born of a phthisical mother. In the lower animals also tubercles have been discovered at birth. Since medicinal substances are known to reach the fœtus through the placental circulation, and we also know that syphilis and smallpox are transmitted from mother to child, it is not difficult to conceive of the passage of the tubercle bacillus or of its spores. We must, then, accept the fact of intra-uterine transmission or inheritance. It would, however, seem to be infrequent. Jacobi's case seems unique, although conclusive. Epstean found, in examining two hundred infants born of tuberculous mothers, that only one of them had tuberculosis at ten weeks. The immunity during the early weeks is, however, not marked, as there are many cases of advanced tuberculosis recorded during the first three months of life. The disease is, then, in a number of cases inherited; in the remainder, the germ enters the body from without; even in the inherited cases the infection may also be said to come from without, for the first of the series must of necessity have acquired the disease. Let us now look for the channels through which the bacilli may be conveyed. The moment a child is born, it becomes liable to infection through the medium of its food supply. Should the mother be phthisical, her milk may be a source of danger to the child. While many authorities deny this, yet, judging from analogy, it would seem highly probable that the mother's milk in such cases does contain the bacilli.

Tuberculosis, as is well known, occurs very frequently in cows, and in the animals so affected a tuberculous mastitis is often seen. The milk from the animals has been proven to contain tubercle bacilli, and other animals have been made tuberculous by being fed on this milk. It was held that only in those cases having this affection in the milk gland were the bacilli seen. Professor McFeydan, however, demonstrated bacilli in the milk ducts of tuberculous cows in the absence of any disease of the milk gland. If, then, the bacilli have been found in the milk of tuberculous cows when no disease of the gland could be made out, we have sufficient reason to suspect the mammary secretion of a phthisical mother. The disease, then, may be acquired either through the milk of a tuberculous mother, or through using the milk of tuberculous cows. The flesh of affected animals is usually rendered sterile by the process of cooking. Even if this were not the case, the bacilli contained in solid food are much less likely to escape destruction by the acids of the stomach than those carried in with a large quantity of fluid, which passes quickly through the stomach, and, moreover, acts as a diluent to the acid secretion. Inhalation has always been considered one of the chief sources of tubercular infection. Immense numbers of bacilli and spores are contained in the expectoration of phthisical patients. This sputum, when dried, is carried about as suspended particles in the air, and settles on the floor, walls, and clothing, and may be readily inhaled. In this condition the germs, although they do not multiply, yet retain their vitality for long periods. Bacilli and spores have been demonstrated as retaining their vitality after being exposed in sputum for forty days, and when protected from the action of the atmosphere for 186 days. It is indeed a fortunate fact that they do not multiply without the living body. Bacilli are constantly found on the walls, furnishings, and in the dust of the rooms occupied by consumptives. There is no proof that they are carried off by the patient's breath. No bacilli were found in the dust taken from an inhalation cabinet used by consumptives.

That individuals and families contract the disease readily, while others living under identical conditions escape, is a fact constantly observed; as also the additional fact that a condition in which the vitality is lowered and in which certain tissues—notably mucous membranes, lymph glands, and bone—are subjected to injury or irritation, and consequent inflammation very frequently precedes the onset of tuberculosis. On the other hand, individuals of robust condition and healthy tissues remain free of the disease, although much exposed. These facts would seem to point out the condition or soil necessary for the lodgment and growth of the germ. "The healthy, vigorous tissue cell is quite capable of destroying any bacilli which may find their way into the body" (Woodhead). It is only when the cells are originally of poor quality, are weakened by inflammation, or have their activity impaired by certain excretory products retained in the blood, that the bacilli escape destruction and grow, becoming the aggressors and destroying the cells.

The manner in which this destruction of tissue is accomplished may be most readily understood if we follow the bacillus. A child, for example, as the result of the irritation of indigestible food, has developed an intestinal catarrh, and consequently the mesenteric glands became enlarged. Bacilli, taken perhaps with the milk, are carried to these inflamed glands and deposited there, the vitality of the cells in the gland is diminished, and the bacillus escapes destruction and is able to effect a lodgment, multiplies and produces its excretory toxic substance. At first the poison stimulates the cells of the gland and they proliferate rapidly, causing still greater enlargement. As the poison becomes more concentrated its action becomes more intense, and the tissue cells swell, lose their vitality, and undergo necrosis. This process continues until the gland becomes a caseous mass. While the concentrated poison was causing the interior of the gland to caseate, the stimulating effects of the smaller dose of poison is being shown in the rapid proliferation of connective-tissue cells at the periphery, forming a capsule, as it were. After a time this newly-formed connective tissue may also yield to the poison and undergo necrosis, with rupture and escape of the broken-down contents, consisting of a caseous and liquefying mass, containing bacilli and probably an immense number of spores.

In the lung, in the head of the fermur, or in any situation, the process is the same—cell proliferation, followed by degeneration, both processes being the result of the action upon the cells of the chemical substance elaborated by the growing bacilli.

In the treatment of tuberculosis we have, as in typhoid or any other contagious disease, a double duty to perform—to treat the patient, and to protect his friends and the public from the contagion. Regarding the treatment of the disease, while constant effort is being made to find some agent that will counteract the poison in the body, so far without very decided success, the best treatment embraces anything and everything that will improve the nutrition of the tissue cells, thereby increasing their resistance to the bacillus and opposing the progress. This improvement may be brought about by giving good and suitable food, by securing a plentiful and constant supply of fresh air, by change of climate, by judicious exercise, by attention to the patient's habits and surroundings, and by the giving of medicines that are known to stimulate and improve nutrition. In so far as the patient is concerned, our treatment follows logically upon our knowledge of facts. But is this the case when we come to the question of the protection of the patient's friend, or of the public? Quite the reverse, as a rule. While the profession is possessed by the new facts relating to tuberculosis, yet it would seem that, to a very large extent, the old ideas which were formed when consumption was regarded as a mysterious sort of blight are those acted upon. There is no reason why tuberculosis should not be classed amongst the infectious diseases, and the same scrutiny exercised and precautions enjoined by boards of health as in the other members of the class to which it properly belongs. Were this done, the public would soon become educated regarding the nature of the disease and the precautions necessary to prevent contagion, with the result of an immense reduction in the death-rate from this cause. In Germany, for instance, where this matter of public education has to some degree been attended to, and instruction published regarding disinfection and prevention of contagion, the result is seen in the diminution of the death-rate from tuberculosis at .28 per thousand. If a lessening of the death-rate to the same degree were brought about in the British Isles, it would mean the saving of 10,000 lives per annum. Every physician must be able to recall instances in his own practice where neglect in this particular has resulted in the death of several members of a family instead of one. Indeed, this is the case to such an extent that the laity are prone to consider the first case as the beginning of a series in that family, and friends immediately become solicitous about the other members.

Let me give you one or two examples to illustrate this point.

Case I. W.R., a young man, æt. 24, who had been living in a large city, returned to his home with tuberculosis. He was one of a family of nine children, the eldest then about thirty years of age, the youngest about ten. Prior to this the children had all been healthy. The father was alive and well. Mother died from puerperal fever, aged about forty-five. The grandparents on both sides lived to be about eighty.

The young man was nursed for perhaps a year, going about the house and grounds, taking no precaution whatever regarding sputum. The house, it may be added, was closely surrounded by trees, so that sunlight was practically excluded.

Shortly after his death an elder sister, who had looked after him for the most part, and who after his death occupied the same room, began to fail, and in a short time died from tuberculosis. At the time of her death I was asked to see a younger sister, who, it may be noted, occupied the same room and slept with the deceased sister, and found then moist crepitation and breaking down in the apex of the lung.

That the second and third cases might have been prevented if disinfection had been carried out in the first case does not reasonably admit of doubt. Cases such as this are seen many times in the practice of every medical man.

If the physician were to bear in mind the facts regarding the life-history of the germ, he would in every case explain the danger and manner of contagion to the patient and his friends, and would instruct them in the methods of disinfection of sputum and room. In addition, he would pay attention to the surroundings, securing, where possible, a plentiful supply of light, preferably sunlight. Exposure to the sunlight for a few minutes kills the bacillus, and ordinary daylight accomplishes the same result in a somewhat longer time. Regarding food materials, he would have milk sterilized by immersion in boiling water. In cases of intestinal disease, the discharges should be disinfected as in typhoid. On the termination of the disease, a rigid cleansing of the room should be undertaken.

BILIARY CALCULI.*.

By J. H. Burns, M.D., Toronto.

The case which I have to describe to-night is one of biliary calculus, which in itself presents no especial features beyond the ordinary, except that it was under observation by the patient himself for a longer term of years than usual, although he so strongly dissented from the opinion given him that *post-mortem* examination was permitted to satisfy those of his friends who coincided with his dissent.

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* Read at a meeting of the Toronto Clinical Society, December 15th, 1892.

The patient, in his fifty-second year at the time of his death, had pains of a colicky nature in the region of the gall bladder, recurring at intervals from the time he was twenty years old. These, however, were so slight, and of such brief duration, that professional assistance was not sought until two years ago, when I saw him in the agony of passing a calculus for the first time. Upon careful inquiry, at that time, into the history of his former seizures of colic, I could not learn anything more definite than that there was pain more or less acute, of shorter or longer duration, and always referable to one place, but never requiring more diligent treatment than hot stupes and simple hot aromatic infusions. No after effects were noticeable, not even the slightest icteric tint.

The attack in question, of two years ago, was, however, most unmistakable; there was present the usual abrupt invasion with the excruciating pain in the right hypochondrium, radiating to the right shoulder, thorax, and epigastrium, associated with rigor and elevation of temperature, and followed by marked jaundice after the decline of the acute symptoms.

I saw him again in June of this year in another attack, quite as severe, and learned from him that in the intervening period he had suffered from two other seizures similar in character, which had been treated by another physician, whose diagnosis, I was told, did not agree with mine.

On the 26th October last he had a more than usually severe recurrence, which continued for three days, and before convalescence was established another attack (on the 31st October) of colic supervened, more severe than the first, which was followed by intense depression, violent hiccough lasting for two days, syncope from exhaustion and the intensity of the pain, and death on the 5th of November.

Post-mortem examination, conducted by Dr. W. H. B. Aikins, revealed a gall bladder about six inches in length, distended with bile, mucus, and pus, and containing forty-five calculi, here shown, the largest of which completely obstructed the opening into the cystic duct, and was with some difficulty pushed backward into the gall bladder. The inner surface of the gall bladder was extensively ulcerated.

The liver, which was intensely congested throughout, was fatty cirrhotic, its upper surface covered with lymph. The inflammation had extended to the diaphragm, which was also congested, giving rise, doubtless, to the hiccough which had persisted during the last two days of life. The kidneys were in an advanced stage of Bright's disease.

Such, Mr. President, is a brief account of this case in particular; but if you will allow me to observe in connection with this subject in general, although I may be guilty of transgressing the rules which are supposed to guide a clinical society, that the literature of cholelithiasis furnishes very little accurate information as to the chemical process involved in the formation of gall stones.

We know that age, sex, habits of life, and certain diseases of the liver and gall ducts are predisposing causes; but the manner in which the formation of the calculus takes place is, to a very great extent, conjectural.

Dr. Thudichum, in a paper recently (November 4th, 1892) read before the West London Medico-Chirurgical Society upon the subject of gall stones, their origin, nature, and treatment, maintains "that they are originally caused by a catarrh of the mucous epithelium and glands of the bile ducts; this leads to a formation of the casts of the ducts, and around these, after they have been shed, the gall stone matter is deposited. During the catarrh bacteria enter the ducts from the duodenum and cause decomposition of the bile. Foreign bodies are rarely, and the often alleged inspiration of bile never, the cause of gall stones, their real composition being a selection of the products of bile decomposition. A rational treatment of gall stones could only be based upon a right appreciation of the functions of the liver and bile."

He further says: "But little progress has been made of late years in this direction, but direct relief was now obtainable by cholecystotomy. When the bladder was diseased cholecystotomy should be performed, but this operation involved a greater risk."

I have not had any experience myself in connection with this operation, but believe there are present here to-night surgeons who have performed it, and it will be a matter of interest for us to obtain from them their views upon the subject.

In the case which I have described, operation was considered in consultation, but was advised against because of the feeble state of the patient.

It appears to me that it must be a most difficult point to determine in a case of recurrent obstruction of this kind whether the efforts of nature will be sufficient to overcome one seizure as well as the last one, or whether any particular crisis may be that special one demanding operative interference.

I have not been able to discover in the literature of this operation, which of necessity is yet very meagre, any distinct guide in coming to a conclusion upon this point.

The rapid termination of my case left very little time to prepare for surgical interference, if that were necessitated by the opinion that such was likely to prove beneficial as a last resort; whereas, on the other hand, it would not appear unreasonable to hope that, with the greatly improved means at the disposal of modern surgeons, a fair expectation of safety in operation might be looked for in all such cases. Operation, as in irreducible hernia, might be resorted to if there is the slightest doubt. As yet, however, I believe the results of gall-bladder surgery are insufficiently collected to justify the establishment of a code of rules.

Fraenkel, writing September last upon this subject, states "that in records of operations for biliary colic too little attention has hitherto been paid to the presence or absence of adhesions in the region of the gall bladder. Two cases are reported in which, on operating for the relief of symptoms indicated of severe cholelithiasis, Gersung, of Vienna, discovered nothing save adhesions between the region of the gall bladder and the omentum. In one of these cases there was complete absence of the gall bladder. Division of the adhesions was followed in each case by speedy and permanent cure. These instances," Fraenkel points out, "show that symptoms resembling those of cholelithiasis may be caused by the results of old inflammatory processes, due, in some cases, to the presence of biliary calculi, and in others quite independently of any disease of the gall bladder and ducts. The fact that such symptoms may be caused solely by adhesions and tense cicatricial bands would favor a recourse to operative interference in those cases in which, with all the subjective indications of cholelithiasis, there is an absence of tumor and other palpable signs of retention. It is probable that more frequently than is generally supposed, and, indeed, even in cases of actual cholelithiasis, intense biliary colic may be due to the frequent presence of old inflammatory adhesions. Similar conditions about the female sexual organs have long been regarded by gynecologists as indicative of exploratory laparotomy, as severe and exhausting attacks of pain have often been arrested by division of morbid uterine and ovarian adhesions."

For my own part, I should not hesitate, were I to have a similar experience with this trouble, to make an exploratory incision as soon as there appeared doubt as to the usual rapid recovery one looks for from the passage of the offending stone. And I am led to this conclusion from the very unsatisfactory therapeutic means at our disposal.

In the acute stages, we are limited to the use of morphia as our very best agent to control pain, and in the intervening periods, besides the ordinary hygienic advice which one may give to his patient in regard to diet, exercise, avoidance of cold (for these attacks mostly occur in cold weather), etc., it would seem that no medicine has any effect whatever upon the calculi already formed and retained in the gall bladder. Phosphate of soda, olive oil, bicarbonate of soda, and chloroform are remedies recommended by various writers, but equally disappointing. In view of the fact that common observation recognizes such dangers as the following: exhaustion from repeated attacks; fatal collapse from pain; fatal jaundice; dropsy of the gall bladder, and danger of it rupturing; empyema of the gall bladder; abscess of the liver; local peritonitis; perforation of the gall bladder or gall ducts causing abscess; peritonitis and septicemia, and intestinal obstruction or hemorrhage, it is to be hoped that we may have such collected experience that we shall know more accurately when we should operate, and feel less hesitation in undertaking this operation than has been the case in the past.

REPORT OF THREE CASES OF UNUSUAL JOINT LESION.*

By B. E. McKenzie, B.A., M.D.,
Lecturer on Orthopædic Surgery, and on Surgical Anatomy, in the Woman's Medical College, and Surgeon to the Victoria Hospital for Sick Children, Toronto.

I. SPONTANEOUS DISLOCATION OF THE HIP.

Nov. 20th, 1890: Mrs. J.T.R., æt. 21, had one child two months ago. Her mother once lay for some time confined to bed because of some nervous trouble. Aug. 16th, at about midnight, Dr. Mennie was called to see the patient, and found her sitting upon the side of the bed, unable to get in. Complained of great pain down the back of the right thigh and leg, and about the hip. Had not been lame previously, except that there was a noticeable limp on the 16th. Had for some time previously complained of pain in the shoulders, elbows, knees, and fingers, and some of the joints, especially those of the hand, were slightly swollen. Dr. Mennie had been treating her for rheumatism. No accident had occurred. She came upstairs herself, and undressed to retire. The pain came on when she sat down on the side of the bed. Dr. Mennie found her very nervous, and could not get her into bed until he had administered chloroform. From the first, the right femur assumed a position of flexion and adduction. In a few days she had to have a pillow under the knee. The leg became more flexed and more adducted during the weeks that followed. She lay in bed two months; complained much of pain in the groin over the adductors, and over the great trochanter. She habitually sat in bed during this time, bringing the right knee up nearly to the chin, and having her hands clasped over the knee. During the month that had just elapsed, previous to this consultation, she had been out of bed at times, moving about by the aid of crutches. Upon examination, I found the right foot drawn up, and its inner surface lying against the inner and anterior surface of the left tibia, and the right heel about seven inches above the left. The femur was held at an angle of 145° and adducted 45°, so that the opening of the vulva was placed against the inner side of the thigh, and the femoral crease was covered by an eczema over a space two inches by six inches; the femur rotated inward. Gave chloroform. The thigh was fully flexed, and upon movement the trochanter could be well outlined, not much higher up than that on the left side, and the head of the femur could be distinctly felt behind and a little above its normal position. There was no swelling of the parts about the joint. It was evidently a case of dislocation of the head of the femur upon the dorsum ilii.

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* Read at the meeting of the American Orthopædic Association, New York, Sept. 20th to 23rd, 1892.

The knee being fully flexed, also the femur, abduction was made, rotation outward and complete extension, the left hand being kept behind the joint as a fulcrum. Some structure, apparently fibrous, was felt to give way, and the leg was brought down into nearly normal position. The obstacle to complete extension seemed to be the contraction of the flexors and adductors, and the shortened inter-muscular septum lying inward from the tensor vaginæ femoris. The limb was fixed in this position by a long side splint, and the next day a Thomas posterior hip splint was applied with a view to retaining the limb in this position. There was no elevation of temperature, and no swelling or reaction because of the reduction of the dislocation. The following are the measurements made with care at this time: Right calf, 8¼ inches; left calf, 8¾; right knee, 11¼; left knee, 11¼; right thigh, 10¼; left thigh, 10¾; (2 inches above patella), right thigh, 13¼; left thigh, 13¼; (6 inches above patella) from right anterior superior spine to right internal malleolus, 30 inches; from left anterior superior spine to left internal malleolus, 30¼ inches; from umbilicus to right internal malleolus, 32½ inches; from umbilicus to left internal malleolus, 33 inches. Splint was removed early in January, 1891, hip joint apparently anchylosed; has remained constantly in bed; suffers no pain.

June, 1891. Mrs. R. lame, but walking without aid. General health much improved.

September 8th, 1892. Patient has had another child, now nine months old, a large healthy boy. She is much improved in health, being much fleshier and of good color; walks lame; is worse at some times than at others, depending upon conditions of the weather. Sometimes for a few days is almost confined to a couch, having pain at the front of the joint, over the great trochanter, and sometimes as far as the knee, and even to the ankle. On examination I find complete anchylosis, no adduction, no shortening, no atrophy.

Nearly all cases of spontaneous dislocation have been observed at the hip.* This case, no doubt, occurred through muscular action, and through pressure of the paient's hands pushing the head of the femur toward the cotyloid notch, as the limb was held strongly flexed. The anchylosis which now exists in the joint probably points to the rheumatism as an important causative factor.

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* Stimson on Dislocations. [illegible]. page 463.

II. COMPLETE LATERAL DISLOCATION OF THE KNEE.

M.M., æt. 50, farmer, about five feet nine inches in height, 170 pounds in weight; always a rugged, healthy, active man. In March, 1891, while working in the woods hauling logs with his team, a long and rather slender log to which his team was hitched became wedged between two trees, one of which was in contact with the butt of the log, the other on the opposite side about the middle, while the team was hitched to the smaller end, drawing so as to bend the log, thus increasing its pressure against both of the trees; at the smaller end, the log had a diameter of about six inches. While the team was drawing forcibly the chain about the log broke, and the latter, springing back, struck the leg. Upon examination there was found a complete lateral dislocation, the femur inward, the tibia outward. There was about three inches of shortening. There was no abrasion or bruising on the surface to indicate what part of the leg had been struck. Reduction was easily accomplished by traction and manipulation, and the leg was placed on a MacIntyre splint at an angle of about 160°. There was soon a large amount of swelling and considerable ecchymosis, especially on the outer side. There was not much shock. No great amount of pain was complained of. Pulsation could be found in the dorsalis pedis a few hours after the accident. The leg was kept carefully at rest for about three months, there being considerable tenderness about the joint. There was no sloughing; no abnormal sensations remained in the leg. There was a considerable shortening in the calf muscles, producing a moderate degree of talipes equinus. This has been satisfactorily overcome in later months by exercises employed for stretching the posterior group of muscles. There is now very slight lameness, and the limb can be fully extended and flexed to 90°.

The number of cases of this dislocation in which there was a complete separation of the ends of the tibia and femur is very small.* As in other cases, the reduction was easily effected, the reaction slight, and recovery good.

III. SEPARATION OF FEMORAL EPIPHYSES AT BOTH HIPS DURING SCARLET FEVER.

January 15th, 1891. C.C., male, æt. 4 years. Was ill in spring of 1890 with scarlet fever; had always been a healthy boy, active, and perfectly formed. Had a long illness; made a tedious recovery; had several abscesses, one in front of the ear, one over the larynx, and one over the great trochanter on the left side. These all seemed to be superficial. He became greatly emaciated, and digestion was very poor. Was carried out of doors each day, and in autumn had sufficiently improved to be able to walk, in so doing showing a very awkward mode of movement. It was described by his father as a waddling gait. His appearance and movement were characteristic of double congenital hip dislocation. On drawing the limbs down, and shoving up again, they move through a distance of about an inch and a half, and there was felt a cartilaginous grating in each limb, most marked in the left. No tenderness or swelling; general health excellent; has no pain; sleeps well.

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* Stimson on Dislocations, 1882, p. 467, *et seq.*

Diagnosis. Separation, and probably absorption, of the epiphyses. I recommended fixation and extension by the use of a Thomas double hip splint. This treatment was not adopted, and the boy was taken to an institution in the United States where a complicated appliance was employed.

January, 1892. Examined the boy again, and found that mechanical appliances of various kinds had been employed with a view to correcting the lordosis and holding the femora in place. There is, however, little or no improvement. When the weight rests upon the feet, the trochanters are carried far above the normal line. In any case of this kind, I think it exceedingly doubtful whether an ambulatory appliance can be devised which will retain the femora in right place in reference to the acetabula.

CANCER OF THE BREAST AND AXILLARY GLANDS.*

By Dr. N. A. Powell, Toronto.

Mrs. L., æt. 69, received a blow in the lower and outer quadrant of the right breast two years ago. In May, 1892, she noticed a small, hard growth there, and in November, after consulting her relative, Dr. Mitchell, of Enniskillen, she was referred to me. With the assistance of Dr. Mitchell, I removed the tumor now presented, and also the axillary contents. Enlarged and hardened glands were found behind, below, and in front of the axillary vein, but their removal presented no special difficulty when undertaken by the plan which I have now for some years adopted, and which, in order to open the discussion, I shall presently describe.

The wound in this case was healed by the seventh day. The temperature at no time, when taken, exceeded 99°F., and there was no pain, nor disturbance of rest or nutrition.

I would feel like apologizing for having taken your attention while relating such an ordinary history and result were it not for the fact that very ancient and very faulty advice is given in certain of our surgical text-books with reference to the operation in question.

Besides that, we all see it done from time to time in such manner as

Abstract of remarks at a meeting of the Toronto Medical Society.

almost to insure early recurrence. I have done it that way myself, and am trying to be as honestly critical of my own work as of work done by others.

Position of patient. The body should be tilted from the operator by a pillow covered with rubber sheeting, and placed under the shoulder of the affected side. This gives better light in the axilla, and facilitates its dissection. During the breast removal, the arm should be held accurately at a right angle with the body.

For the axillary part of the operation, the hand should be carried up and placed under the head. Titian's "Sleeping Venus" illustrates most admirably the correct position.

The latest edition of Erichsen figures a patient lying on a bed with a wrist tied to an upper bedpost, as all ready for operation. Such illustrations insult the intelligence of modern surgeons.

Incisions for the breast. We may leave out of consideration the plan suggested by Dr. T. G. Thomas, to secure healing with hidden—*i.e.*, submammary—scar. It is called for only when a non-malignant tumor is to be removed from a patient who must be able, subsequently, to appear in low-cut evening costume.

The narrow elipse formerly so much in use is now giving way to a wider elipse, one that falls well outside of all suspicious tissue. So far, I have not seen any case in which the circular or dinner-plate incision of Gross seemed to have any advantage over this wide elipse.

Extension for axilla. Many authorities direct that the excision for the breast be extended "into the axilla." This is inexact, and leads to undue and dangerous prolongation of the operation. It is better, for many reasons, that the incisions should not be made into the axilla, but should pass just in front of its anterior border, and then out upon the arm for about two inches over the prominence formed by the corico-brachialis. The slow and risky way is to work up the axilla toward the axillary vein. The rapid and safe way is by incising the bicipital fascia covering the corico-brachialis, to come down at once on the vein, and then to work away from it. As cancer cells are found in the fat as well as in the glands, it should be cleared away in one mass with these glands. The intercosto-humeral nerves, being cutaneous, need not be preserved, but injury to the subscapular nerves must be carefully avoided. It is of the first importance to clear away the fascia covering the great pectoral muscle near its outer border, as in it lie the lymphatic radicles. I believe that recurrence most commonly starts in this tissue, or from glands left between the axillary margins of the two pectorals, or at the apex of the axilla.

When the dissection is completed the flap formed can be raised up, and it will be found that the suture line is nearly vertical, thus favoring drainage, and that it is in front of the axilla, thus tending to delay the oncoming of œdema of the arm when recurrence does take place. I like to place a good-sized short glass drainage tube in the axilla, and bring its distal end out through an opening made in the skin at the edge of the latissamus dorsi. So placed, its mouth will lie in the groove between the arm and the body, and the drainage will be perfect. Such a tube can, as a rule, be removed by the second or third day, and the wall of lymph which has formed around it will be sufficiently rigid to keep the opening patent as long as any opening is required.

Wound closure. If the upper and lower flaps of the breast wound are freely dissected up from the chest wall, they will generally slide together and lie in easy apposition when the hand is placed as it should be with the finger-tips touching the opposite shoulder. This expedient, coupled with the use of relaxation sutures, aids materially in securing prompt repair. Disregard of these points will increase the number of cases in which the wound remains open, or reopens on account of tension upon the stitches. The advice sometimes given to fill the wound for a few minutes before closing it with hot sponges does not commend itself to me. When removed, these sponges must tear away the clots that have formed in the mouths of small vessels. A better plan is to make elastic compression by large sponges held outside the flaps.

For sutures, I have been better pleased with silkworm-gut than with any other material, and Treeves' suggestion to tie the first half only of a surgeon's knot, and to leave the ends long with each point of interrupted suture, is a good one.

Stiles' test. In this connection it may be well to call attention to the usefulness of the method suggested by Mr. Stiles, of Edinburgh, for determining, during operation, the extent to which the tissues are involved by cancerous growth. Briefly, this consists in washing the removed breast under the tap for five minutes, then placing it in 5 per cent. nitric acid for ten minutes, again washing, and finally placing it for two or three minutes in methylated spirits. The result is that the fat is unchanged or slightly yellowed, the normal tissue of the breast becomes translucent, while all cancerous tissue takes on a dull, opaque appearance, which has been compared to that of the eyes of a dead fish. By this test, which an assistant can easily make during the clearing out of the axilla, it is possible to determine whether or not the incisions have been placed sufficiently outside all infected tissue.

Prognosis. Of necessity the ideas which we hold regarding the causation of cancer will influence the prognosis. While insurance companies still cling to the notion that hereditary influences are paramount in tubercular and in cancerous diseases, the consensus of medical opinion is in favor of the strictly local origin of cancer. The most extensive European statistics point to one or more of three factors as standing in causative relationship to practically all cases of mammary cancer. These are: (1) Trauma; (2) puerperal mastitis; (3) eczema of the nipple. Early and complete removal justifies a reasonably favorable prognosis. Late or partial—or, worse still, late and partial—removal justifies Paget's statement that "recurrence is as certain as anything in surgery."

Statistics ten years ago justified the belief that, out of one hundred operations, there would be fifteen deaths, ten cured cases, and seventy-five recurrences.

Antiseptic surgery can make no change in the real nature of cancer, but earlier and more radical extirpation can give and is giving far better results.

Warren, of Boston, thinks that the mortality is now down to from 3 to 5 per cent., and that we may hope for 20 per cent. of cured cases.

I have data regarding 182 aseptic radical operations by five surgeons, four of whom are men of distinction. In this series there were but 8 deaths, a mortality just over 4 per cent.

As to immunity, prolonged or otherwise, after operation, I am not yet ready to report.

HYDROSALPINX, CAUSING OBSTINATE AND DANGEROUS UTERINE HEMORRHAGE.

Reported to the Toronto Medical Society, December, 1892.

By Dr. J. F. W. Ross.

The causes of uterine hemorrhage may be divided into two classes: first, puerperal; and, secondly, non-puerperal conditions. The puerperal conditions do not concern us at present. Of the non-puerperal there are several that require special mention. I would divide the non-puerperal into intra-uterine causes and extra-uterine causes. Of the extra-uterine causes there are a variety. To several of them, however, little attention has been paid in text-books, and, as a consequence, professional attention has not been called to them. They may be classed as follows: First, extra-uterine pregnancy; secondly, inflammatory diseases in the tubes; and, thirdly, inflammatory diseases in the ovaries. Of the inflammatory diseases of the tubes, we have pyosalpinx, hæmatosalpinx, and hydrosalpinx. Of the inflammatory diseases of the ovary, we have cystic disease of one ovary, with formation of one large cyst, and a probably healthy condition of the other; we have cystic disease of both ovaries, with enlargement of the organs and a degeneration of the parenchyma into a number of medium-sized cysts; and we have hæmatoma of one or both ovaries—more frequently the former—where we have a large cavity in the structure of the ovary filled with blood. I have now met with all of these conditions, and there is one other that should be added to the list, namely, inflammatory disease of the peritoneum producing the so-called cystic disease of the peritoneum. It is only two days since I saw such a case, and learned from the attending physician that for nearly four months she had continuous uterine hemorrhage. I have never yet seen continuous uterine hemorrhage accompanying tubercular disease of the peritoneum.

In this connection there are three cases I would like to speak about. The first is a case of hæmatoma of the left ovary, together with double pus tubes. The tubes, however, were small, firmly fixed, and contained but a few drops of pus. The ovary was enlarged to about the size of a small orange, and converted into a blood cyst. The symptoms of the case were: The patient had been confined eight months before I saw her, and was sick for ten or eleven days. The husband was suffering from a urethral discharge that came on in some unaccountable way during an absence from home. About two or three months after her confinement, pain came on in the left side and back, accompanied by high fever, and confined her to bed for six weeks. She then went around for one week, when hemorrhage from the uterus came on, and it became so free that she was obliged to go to bed again. She remained there for a week; was then able to be about for two weeks without any loss of blood. The hemorrhage then recurred, and she was obliged to remain in bed for two weeks. The loss became so excessive that she came to the city to consult me.

The next case was one of cyst of the right ovary. The ovary was completely disorganized, and the capsule contained one large cyst. The organ would be about the size of a Mandarin orange. The symptoms of the case were those pointing to a supposed miscarriage with continuous hemorrhage. The patient was sent to me with a diagnosis of retained placenta. When I put her on the table for the purpose of dilating the cervix and removing the piece of placenta, I made a vaginal examination for the first time, and was surprised to find a cystic, fluctuating, movable mass down behind the uterus. The diagnosis then appeared to lie between unruptured extra-uterine pregnancy and small cyst of the ovary. Under an anæsthetic the ovarian ligament was distinctly felt, and the case was diagnosed as one of small ovarian cyst.

The next case is the one attended by Dr. Galloway and myself. He has promised to outline the history of the case before I saw her. After seeing her, I decided that it was advisable to explore the interior of the uterus with the finger before proceeding to do a laparotomy. On examining under chloroform we discovered a cystic, movable mass, with lax walls, lying in the pouch of Douglas, and feeling very much like a piece of intestine. I dilated the uterus, passed in the finger, found the cavity empty, packed with iodoform gauze, and we then left the house. After removal of the gauze, hemorrhage came on, and the doctor used muriated tincture of iron on a swab to the interior of the uterus. This did not control the hemorrhage, and it was found necessary to pack the uterus firmly with gauze, so as to produce pressure on the vessels. As soon as this was removed, hemorrhage recurred. I then applied the actual cautery to the interior of the cervix and repacked. The hemorrhage again recurred, and we used the gauze dipped in a saturated solution of alum, and, subsequent to this, used tannic acid powder on iodoform gauze. The patient became very weak and bloodless; her pulse ranged, at times, at 110 to 130. No inflammatory reaction ensued. For several days we almost despaired. The uterine cavity looked angry, as a consequence of the continued packing and irritation of the different applications. This packing was kept up for a period of three weeks. The patient gradually improved. Packing was discontinued, and, under the care of a trained nurse, she was slowly nursed back to a condition of fair health, when I performed abdominal section and removed the mass presented here to-day. It is a cyst of the right tube; the contents are, as you see, clear and serous. The right ovary was so atrophied that it appeared like three or four small peas on the posterior surface of the broad ligament. The left tube was normal, and was not removed. The left ovary was in a condition identical with that of the right, and was not removed. There were virtually no ovaries to remove, because they were so small. The patient is making an excellent recovery.

In the two former cases there has been no return of the uterine hemorrhage. In the first, both ovaries and tubes were removed; in the second, but one ovary, the cystic one, was removed; and, in the third case, but one tube and neither ovary was removed.

It is not necessary for me to speak, at present, of any of the intra-uterine causes of uterine hemorrhage. A diagnosis, in these cases, is of the greatest importance. The intra-uterine applications will not give permanent relief when the cause of the hemorrhage is extra-uterine.

Hemorrhage, as a consequence of the presence of the above-mentioned conditions, is not a frequent occurrence. The conditions enumerated are perhaps more frequently accompanied by irregularity of menstruation and a copious discharge of mucus from the uterus and vagina, constituting a profuse leucorrhœa. In such cases it is as useless to attempt to cure the leucorrhœa by intra-uterine applications, or the curette, as it is to attempt to stop the hemorrhage in those cases that bleed from extra-uterine causes by intra-uterine applications, or the curette.

Progress of Medicine.

MEDICINE

IN CHARGE OF

W. P. CAVEN, M.B. Tor.,

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TUBERCULOUS PERICARDITIS.

Tuberculosis follows hard upon rheumatic fever as a cause of pericarditis. The affection is usually overlooked clinically, and possibly in some cases anatomically. In 1000 autopsies, the majority of which were made at the Montreal General Hospital, there were 275 cases with tuberculous lesions, in seven of which the pericardium was involved.

ETIOLOGY. Tuberculous pericarditis is not limited to any age. The youngest of my cases was a child of five years; the oldest a man of seventy-two years. Parrot, Duckworth, Rolleston, and Letulle have reported cases in infants under a year. In Brackmann's Gottingen Thesis of sixty-five cases collected from the literature, nineteen were in children. It does not seem to be at all uncommon in old men, and there are two cases on record in octogenarians. Males seem more prone to the disease than females; there were only four women on my list.

Tuberculous pericarditis is due, in a majority of instances, to infection of the membrane from caseous mediastinal lymph glands.

A second, less common, mode of extension is from the pleura or from the lung.

And, lastly, there are instances in which the pericardium appears to be involved with the pleura and peritoneum in a general tuberculosis of the serous membranes. In some of these cases the extension can be shown to have been directly from the pleura and pericardium into the peritoneum, while in others it would appear that the extension was from the peritoneum into the serous membranes of the thorax.

MORBID ANATOMY. The picture is extremely varied. Practically, there are two groups of cases; those with firm adhesions between the pericardial layers, usually with great thickening; and those with recent exudation, fibrinous, sero-fibrinous, hemorrhagic, or purulent. The cases with adhesions are the most numerous.

The condition of the heart in the chronic adhesive form is most interesting. As is usual in adherent pericardium, particularly when the layers are very thick, there is enlargement of the organ, which may reach an extreme grade.

In the cases with effusion there may be (*a*) a simple plastic exudate similar to that of ordinary rheumatic pericarditis, with little or no serous effusion, and with scarcely any thickening of the membrane, the eruption of miliary tubercles alone indicating the nature of the process. More commonly there is (*b*) extensive sero-fibrinous exudate, consisting of flakes of lymph and a turbid serum. (*c*) In some cases the exudate is hemorrhagic. The membranes here may be deeply engorged, and hemorrhagic foci may be seen in them. The color of the effusion may be bright red, but is more commonly a reddish-brown or chocolate color. The amount of the effusion may be large, ranging from 500 c.c. to 2000 or 3000 c.c. And, lastly, (*d*) the effusion may be purulent, and this, too, apparently from the outset, and not following paracentesis. The exudation may be enormous, and the cases have been diagnosticated as left-sided empyema.

CLINICAL HISTORY. We may recognize four groups of cases.

First group. Latent tuberculous pericarditis. The disease is discovered accidentally in individuals who have died of other affections, or of chronic pulmonary tuberculosis.

Second group. With symptoms of cardiac insufficiency following the dilatation and hypertrophy consequent upon chronic adhesive pericarditis. The clinical features are really those of cardiac dropsy.

Third group. Acute tuberculosis. The clinical picture may be that of an acute tuberculosis, either general or with cerebro-spinal manifestations.

Fourth group. Cases with symptoms of acute pericarditis. This group, the most important in many respects, includes cases in which the pericarditis is acute and accompanied with more or less exudation of a sero-fibrinous, hemorrhagic, or purulent character.

DIAGNOSIS. The diagnosis of tuberculous pericarditis is extremely uncertain. In the large group of cases in which the membranes are thickened and united, the difficulties are those which pertain to the recognition of adherent pericardium—difficulties which are enormously enhanced by the state of cardiac insufficiency with which these cases usually come under observation for the first time. In children with a history of repeated attacks of rheumatism, the bulging præcordium, systolic retraction at the apex, the fixation of the upper limit of cardiac dullness, and the diastolic rebound, speak for adherent pericardium ; and if in a case of this sort there has been no history of rheumatism, and if, on the other hand, there are indications elsewhere of tuberculosis, a probable diagnosis may be made. In the cases which set in as acute pericarditis, unless there are evidences of tuberculosis in other parts, as, for instance, in the left pleura or in the peritoneum, or there are signs of local disease in the lung and tubercle bacilli have been found in the expectoration, the diagnosis can rarely be made. The effusion may be equally great in tuberculous as in rheumatic pericarditis. If paracentesis be performed, the presence of a bloody exudate is decidedly in favor of tuberculosis ; once, at least, tubercle bacilli have been found (Kast). The clinical features themselves offer no criteria, though it would seem probably that in the acute cases with sero-fibrinous exudation the course is more protracted and the fever more irregular than in the ordinary forms of pericarditis ; and in such a case the development of diffuse signs in the lungs may lead to a strong suspicion that the process is tuberculous.

TREATMENT. It is not improbable that tuberculosis of the pericardium may, as a similar process in the peritoneum, recover completely. Possibly some of the cases of simple adherent pericardium are instances of healed tuberculosis. The chronic adhesive form persists, in all likelihood, for years, producing few, if any, symptoms until the compensation fails in the hypertrophied and dilated heart.

It is highly probable that a majority of cases which terminate in general synechia of the membranes present no clinical features ; the process is slow, insidious, essentially chronic, and not associated with definite symptoms. A case which has set in acutely must be dealt with as any other form of pericarditis, the indications being, first, to limit, if possible, the intensity of the inflammation ; and, secondly, to prevent the evil consequences of the presence of a large amount of fluid in the sac. We have no medicinal agents at our command which have any positive influence in controlling the ordinary inflammation of serous membranes. In "Guy's Hospital Reports" of a year or two ago, *apropos* of the treatment of pericarditis, there is a story told of Sir William Gull which is worth quoting in this connection. "He once met a practitioner on a case of rheumatism, in which he detected a pericardial rub. He said nothing of this to the patient's friends, but approved the general treatment, and they came away together. 'Oh, Dr. Gull, it was very good of you not to let them see I had made that dreadful oversight. I cannot think how I can possibly have failed to detect the pericarditis.' 'Never mind,' said Gull, 'it is just as well; for if you had detected it, perhaps you might have treated it.'" There is one measure in the utility of which we may have great confidence, namely, the ice-bag applied continuously over the præcordium. It allays the pain when present, and appears to check the tendency to effusion, while under its use an exudate may be absorbed with rapidity. It is very much to be preferred to blisters or the thermo-cautery. In some instances the patients complain very much of the intensity of the cold of the ice-bag, and in such I was in the habit, in Philadelphia, of using Leiter's coil, through which the water flowed continuously, and it could be arranged to have any temperature thought necessary.

A second indication holds good in tuberculous, as in other forms of pericarditis. When the effusion reaches a certain grade, and the pulse is irregular and feeble, the color becoming bad, the respirations hurried, paracentesis should be performed, or, if necessary, the sac freely incised and drained.—*Wm. Osler, M.D., in American Journal of the Med. Sciences.*

THE DIATETIC TREATMENT OF CHRONIC NEPHRITIS.

M. Dujardin Beaumetz, in speaking of chronic nephritis before the Academy of Medicine, Paris, said "that the quantity of albumen excreted was only a matter of secondary importance. The permeability and eliminatory power of the kidney alone can be taken as a basis for prognosis and treatment."

The treatment, then, will consist in aiding the elimination of the toxines by the supplementary organs, and in reducing by means of intestinal antisepsis and diet the production of these toxines.

To eliminate toxines, the first place he gives to purgatives, then to diuretics and diaphoretics.

To reduce the production of toxines in the intestine benzo-naphthol, which contains neither carbolic nor salicylic acids, is to be preferred to salol as the antiseptic.

To reduce the source of the toxines recourse should be had to a vegetable diet, to the exclusion in general of all forms of meat, game, fish, molluscs, crustaceous and ripe cheese, which during their rapid fermentation produce toxicons. Alcohol should be excluded, since it reduces the eliminatory power of the kidney by its special irritant action on the parenchyma.

A vegetable diet will consist of farinaceous foods, green vegetables, and fruits. To these must be added milk and eggs.

All are agreed as to the value of milk. It is an admirable medication even, and the only one we should employ in grave cases. There is a less unanimous agreement with reference to eggs. It is believed by some that egg-albumen is excreted in the urine in these cases; egg-albumen does not in any particular resemble the serum-albumen found in the urine. Theoretically, it seems entirely inadmissible that cooked and peptonized albumen could be excreted in the urine; and experimentally it has never been ascertained that the ingestion of eggs has ever increased the quantity of albumen.

The farinaceous dietary has lately had added to it several new products; soja from Japan, fromentine, legumine, embryonine, etc. What value can be placed on these cannot yet be ascertained. It is a question whether or not the peptonization of the nitrogenous principles of these vegetable substances is interfered with on account of the manipulation necessary in their preparation. Rice, according to the observations of M. Hervé-Mangon, is three and a half times more nutritive than potatoes. He then heartily recommends it. He allows all fruits, especially if cooked, and all vegetables, except cabbage; these set up intestinal fermentation. He insists on the danger of meats, but still it seems permissible to him to use the gelatinous forms—calf's head, pig's feet, calf jelly, and very well-cooked meat. Of course the physician will have full latitude to regulate the severity of the diet. A patient threatened with an uræmic attack should be limited exclusively to a milk diet; as his condition improves vegetables, then jellies and extremely well-cooked meats, might be permitted.

Before finishing, he called attention to the marvellous efficacy of this regimen in other affections—arterio-sclerosis, cardio-sclerosis, and gastric and intestinal digestive troubles.

M. Leroy de Méricourt remarked that fish did not seem to him so injurious as it was generally thought to be. In many sections of Newfoundland it is used almost exclusively as food.

M. Dujardin-Beaumetz, in reply, said he agreed thoroughly with M. Leroy Méricourt, when the fish used was as fresh as that used on the banks, but not so when Parisian fish, that contained many toxines, was used. —*Gaz. des Hopitaux* (*Paris*).

INCUBATION PERIOD OF MUMPS.

In October, 1887, there was an epidemic of mumps in St. John's Foundation Schools. The first case occurred on October 4th; one occurred on October 18th, or fourteen days after; one on October 19th, or fifteen days after; five on October 20th, or sixteen days after; four on October 21st, or seventeen days after; seven on October 22nd, or eighteen days after; four on the next day; one on the next, and two on the next day, showing that the larger number of failures are about the seventeenth and eighteenth day, while the disease may be developed as early as the fourteenth day, and as late as the twenty-first.—*Arthur Stedman in British Med. Jour.*

TURPENTINE IN TYPHOID FEVER.

When during the convalescence of typhoid we find local intestinal symptoms persist, indicating a slow healing of the intestinal ulcers, turpentine is a very valuable remedy. Earlier in the disease, when a very dry tongue and marked tympanites exist, it is also indicated. Its action on the ulcerated surface is a local one. This remedy has been used empirically for over half a century, and recent laboratory experiments show that there is a special relation between the oil of turpentine and the bacillus of typhoid fever. A good formula is oil of turpentine 1 part, glycerin 4 parts, mucilage of acacia 6 parts—peppermint water to make thirty-two parts—a tablespoonful every four hours during the day.—*Therapeutic Gazette.*

QUANTITATIVE DETERMINATION OF THE RED AND WHITE BLOOD CORPUSCLES IN HEALTH AND DISEASE.

Daland (*Fortschritte der Medicin*) has recorded the results of observations made at the clinic of Von Jaksch as to the value of the hæmatokrit in the volumetric study of the red and white corpuscles in human blood in health and disease. He found that the best diluting fluid was a two and a half per cent. solution of potassium permanganate. In fifty-five healthy adult males the average volume of red corpuscles, as determined by the hæmatokrit, was 51.6 per cent.; while the average number among seventeen observers, as determined by the hæmocytometer, was 5,130,248. One per cent. of volume is therefore the equivalent of about 100,000 red blood corpuscles. It was shown that, in spite of the most scrupulous care, the results obtained by means of the hæmocytometer in the hands of competent observers were most variable. The two chief sources of error reside in the difficulty of securing an equable dilution and an equable distribution of the blood. For purposes of accuracy, one should prepare not less than two (or, better, four) slides, and count in each the contents of not less than sixty-four squares. The hæmatokrit gives results as accurate as, if not more accurate than, those of the hæmocytometer; while its employment requires less skill, demands less eye-strain, and occupies less time.—*American Journal of the Medical Sciences.*

CHOLERA AND FLIES.

The Hamburg correspondent of the *British Medical Journal* states that nine flies that had been in contact with the intestines of persons dead of cholera in the necropsy room at the Eppendorf Hospital were placed in separate flasks containing ordinary nutrient gelatin, and that in six of the nine flasks numerous colonies of comma bacilli were produced.

THERAPEUTICS

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PIPERAZINE (SCHERING), AN URIC-ACID-SOLVENT.

During the last few years various organic bases have been tested in the laboratory of the "Chemische Fabrik auf Actien" (late E. Schering) in Berlin in regard to their power of dissolving uric acid. But there was found to be present in almost every one of them some property which forbade their therapeutic employment. At last piperazine was discovered, and it seemed to fulfil the desired indications. It has no toxic or corroding effect, and may be taken for any length of time without deranging the digestion of any of the vital organs. Its power of dissolving uric acid was found to be greater than anything heretofore observed. A solution of piperazine in cold water will dissolve twelve times as much uric acid as the same quantity of lithium carbonate. In addition to this, the urate of of piperazine was shown to be seven times as soluble in water at a temperature of 63° F. (17° C.) as lithium urate. Then, again, piperazine, when combined with uric acid, never forms an acid, but always a neutral salt, which lithium carbonate does not. And it is soluble in cold water in almost any proportion, while lithium carbonate is not. The composition of piperazine is represented by the formula $C_4H_{10}N_2$.

In experimenting in Schering's laboratory to test the solvent action of the new drug on uric acid, it was found that in a comparatively short time a one per cent. solution of piperazine would completely dissolve a small uric acid calculus; the sharp edges melted away and the surface of the exceedingly hard fragment became slippery very shortly after the first immersion, and in eight hours it was completely dissolved. Other experiments, in which the temperature was always maintained at blood heat, gave similar decisive results.

Following these investigations, the solvent power of piperazine on uric acid while in the human system was made a subject of experiments by a number of French scientists. The results were communicated to the "Société Thérapeutique" by Dr. Vogt. He demonstrated, aside from the fact that piperazine was very well borne by the patients, that the amount of uric acid in the urine decreased, while that of urea increased. Thus it was shown that in consequence of its alkalinity, or its antiseptic properties, or some chemical action, the oxidation of uric acid into urea was greatly promoted by piperazine. Now it was time to have the clinical test applied to the new remedy. This was done, and the various reports unanimously confirmed the results obtained by the various chemical and physiological tests.

The pathological condition known as nephrolithiasis, gravel in the urine, etc., and gout, are those in which piperazine is superior to every other remedy known so far. Prof. Ebstein, Dr. Bardet, Prof. Schweninger, Dr. Volmer, Dr. Ritter, Dr. Von Herget, and Prof. Zuelzer's assistant, Dr. Heubach, and others, all reported favorably on the power of piperazine to dissolve uric acid, and thereby improve the pathological condition above mentioned in their patients.

In cases of nephrolithiasis the object of the physician is not only to combat the terrible attacks of renal colic, caused by the passage of a calculus through a ureter; he must also bend his energies on curing the primary condition, *i.e.*, the excess and the consequent precipitation of uric acid, and of the salts it forms with the alkaline bases. And here piperazine, given in 15-grain (1.0 gm.) doses daily, is of the greatest benefit.

This the reports of the clinicians above named have confirmed beyond the possibility of a doubt. The amount of uric acid excreted with the urine invariably diminished, while that of urea increased in proportion. And even when given during an attack of renal colic, its specific action was evident from the fact that the calculus passed in one of Dr. Heubach's cases on the third day was "plainly eroded on its surface."

The same observer reports another similar case of a fifty-year-old lady who had for years passed bloody urine loaded with gravel of the uric acid variety. Ten days after the administration of a one-half per cent. piperazine solution, a tablespoonful every two hours, profuse elimination of small, roundish uric acid calculi took place, which continued for several days. And since then the colicky attacks have ceased, likewise the hæmaturia.

It is a fact established by the experiments of Dr. Holtz, viz., that piperazine displays its solvent properties not only on concretions consisting of uric acid exclusively, but also on urinary calculi composed of a combination of uric acid, calcium phosphate, ammonium urate, etc. All sorts of concretions of this description dissolved readily and completely in a one per cent. solution of piperazine within a relatively short time. In a few cases nothing was left of these stones but light, honeycombed skeletons, consisting of hardened cementing mucus. Here also it was especially noticed that the sharp edges of the calculi melted away very rapidly, and became smooth and roundish. The clinical importance of this fact is readily understood, for the pain caused by these calculi in the kidneys, and, above all, during their passage through the ureters, depends, aside from their size, principally on the sharpness and roughness of the individual particles.

From this it is evident that piperazine is far superior to any drug of which we know in these affections. It is even far superior to morphine and atropine; for while the latter acts only on the propulsive, peristaltic action of the ureter, and the former only allays the pain for the time being, the action of piperazine is directed on the removal of the cause itself, smoothing off the edges and reducing the size of the calculus by its solvent effect.

Another bright chapter in regard to the therapeutic action of piperazine is its efficacy in the treatment of gout. In this disease it has been used with great advantage locally, as well as internally.

Next to Dr. Biesentnal, who treated forty-seven cases of gout with piperazine, Prof. Schweninger has reported the largest number of cases of this disease, viz., 150.

Most of his patients had been suffering for a long time, and had undergone various forms of treatment, without avail, before they came under his care. Of these 150 cases, almost all of them severe ones, Prof. Schweninger claims to have had an unexpectedly favorable success in over ninety per cent. with the piperazine treatment. His opinion is that this is entirely due to the unequalled solvent action of the new drug on uric acid and its salts, the formation of which in excess and their deposition in various tissues of the body constitute the essential feature of this disease. The great solubility of piperazine in water and the ready absorption of it by the stomach are, according to Prof. Schweninger, the two great primary advantages. Another is its absolute harmlessness, since it is free from any disagreeable secondary or accompanying effects. The quick and easy manner in which it dissolves the deposits of urates and enables the blood and lymph stream to carry them away is the last and most important action of piperazine. Thus it is that not only the rapid excretion of uric acid takes place constantly, but the secondary inflammatory and necrotic processes caused by the gouty deposits in the tissues implicated are cut short, and to a certain extent prevented, since the new formation of the urates is prohibited.

Prof. Schweninger employs the drug internally as well as subcutaneously in doses of from fifteen to thirty grains (1.0 to 2.0 gms.) in the twenty-four hours. His results were always good, certainly better than with those he formerly employed, *e.g.*, lithium, the alkalies, colchicum, etc.

He never observed any injurious effects from the piperazine; the mucous membranes as well as the tissues in which he injected the drug were never injuriously affected thereby. After the subsidence of the acute gouty attack, the patient was ordered to take from eight to fifteen grains

(0.5 to 1.0 gm.) every third day for months, in the same manner that lithium had been employed hitherto.

The hypodermic injections were given in the strength of 1⅔ grain to fifteen minims (0.1 to 1.0 gm.) of water. They were usually given in the neighborhood of the affected joints, and their effect was a very gratifying one: the swelling and the pain subsided, and the gouty deposits were partially dissolved and greatly reduced in size. Prof. Schweninger even reports miraculous results in cases with large stone-like deposits of gouty material about the elbow joints, in the eyelids, and in the pinnæ. In these cases two or three injections were given in the neighborhood of the swelling, and at the same time piperazine was administered in daily doses of from eight to thirty grains (0.5 to 2.0 gms.). Dr. Bardet and others have also used piperazine hypodermatically in the same manner, with similar excellent results.

Dr. Swinford Edwards, in his inaugural address as president of the London Medical and Surgical Society, read at its last anniversary, referred to the progress made in the treatment of diseases of the urinary organs during the last eleven years. After speaking of various therapeutical agents, he referred to piperazine in the following manner:

"As a solvent for uric acid, urates, and also for phosphates in certain cases, I know nothing equal to piperazine."

A great advantage of piperazine is to be found in the fact that even when it is used for long periods of time it does not change the reaction of the urine from acid to alkaline. There is, therefore, no possibility of the precipitation of the earthy phosphates, which would tend to foster the formation of calculi by depositing a secondary layer on the uric acid concretions not yet entirely removed.

In conclusion, some points may be stated in regard to the administration of the new remedy:

(1) Piperazine occurs in crystalline form, but it is a hygroscopic body, and will deliquesce on exposure to the air; hence

(2) Piperazine must never be dispensed in powder form, pills, tablets, capsules, or any other similar form.

(3) Piperazine is supplied by the manufacturer in vials containing five grammes (75 grains), or sufficient for five days' dosage; therefore it is practical, economical, and preferable that

(4) Piperazine should be prescribed thus:

R. Piperazine pur. (Schering).....................grm. v.
Solve in Aquae..............................℥ v.

Sig. Dissolve one-fifth of this solution, *i.e.*, two tablespoonfuls, each day in one pint or one quart of water, keep the solution in a warm place (neither hot nor cold), and drink the full quantity during the day in convenient doses to quench the thirst.—*Trans. Berl. Med. Woch.*

THE TREATMENT OF INSOMNIA.

Dr. Joseph Collins, of New York, in an interesting article on insomnia, published in the *Journal of Nervous and Mental Disease*, contrasts the action of chloralamid and sulphonal in the treatment of insomnia, and arrives at the following conclusions :

(1) Chloralamid is a safe and one of the most reliable hypnotics.

(2) It is not ordinarily followed by distressing after-symptoms, particularly headache.

(3) It is especially valuable as a hypnotic where pain is a prominent factor, but not violent.

(4) In cases of insomnia, where there is excessive activity of the brain, it is also useful.

(5) On account of its stimulating activity on the respiratory function, it is the hypnotic *par excellence* in nervous exhaustion associated with an asthenic condition of respiration and symptom complex indirectly dependent on this, brought about by defective oxidation and the formation of unstable chemical compounds in the system.

(6) On account of its very slight action in depressing the circulation, it can be given in diseases associated with a weak heart with greater safety than most of the other hypnotics, not excepting chloral itself.

(7) It is conveniently administered in the shape of an elixir, and this overcomes the need of dissolving it.

(8) Its dose is from one to three scruples, administered one hour before sleep is desired, and this should not be repeated within two hours, for occasionally the action of the drug is delayed.

Sulphonal is preferred when we wish to get very rapid action. It should be given dissolved in boiling water, taken as hot as possible. In this way it is at once absorbed, sleep frequently occurring in from fifteen to twenty minutes. The disadvantages of sulphonal are that the patient is liable to form the sulphonal habit, and that its effects last through part of the following day.—*Western Med. Rep.*

FILTERED OR BOILED WATER ?

M. A. J. Martin, under this title, presents a very carefully studied paper. Recognizing the fact that many filters, so far from separating the bacteria, may even make the water richer in these organisms, this method cannot be recommended. Boiled water has lost its carbonic acid gas, and the salts of lime and magnesia are precipitated ; the taste is flat, although on standing in a cool place it reabsorbs the greater portion of the lost gas. Even boiled water ought not to be long preserved. The problem, apparently, was solved in heating the water without loss of air, cooling it mechanically, and adding oxygen by means of an air-pump, or it can be boiled in closed bottles. Various ingenious apparatus has been devised for boiling water in closed vessels under pressure, and cooling it in the same apparatus. Investigations have shown that the slight differences observed in the chemical composition of the water before and after sterilization have not altered its potability. With a filter, one can drink only the water of which he knows the source; with boiling, one can use any water. Boiling, then, should be the procedure of choice as soon as any suspicion arises; it should be the rule, especially in large cities, during the progress of any epidemic.—*Gazette hebdomadaire de Médecine et de Chirurgie.—American Journal of the Medical Sciences.*

The Use of Strychnine and Digitalis in Diarrhœa.

In fevers of a remittent character, the complication of persistent diarrhœa occurred frequently, and at periods when the patient was worn out by fever, and the digestive powers were rapidly failing, I determined to use these drugs to combat certain symptoms. In these cases the temperature ranges from 1° to 2½° above normal, the pulse is soft and yielding, not very rapid, and markedly wanting in tone; the motions, four or five daily, increase in number until nourishment appears to excite an action of the bowels, marked by even a greater tendency to fluidity, the extreme being reached when the motions escaped involuntarily, and is followed by a tendency to cardiac failure, if not collapse, frequently accompanied by a consciousness of approaching dissolution in the patient. Digitalis was chosen for these cases because of its well-known general action upon the vaso-motor system; strychnine for its less known more direct action upon that portion of the system concerned in the control of the blood supply to the intestines. The mixture employed was tr. digitalis, *m*iv; liq. strychniæ, *m*ij; spts. chloroformi, *m*v; in water, and repeated at from one to four hourly intervals.—*Mr. Harold Hendley in The Practitioner.*

Substances Incompatible with Antipyrine.

The following substances precipitate antipyrine from its aqueous solutions:

(1) Concentrated solutions of carbolic acid.
(2) Tannin, and preparations containing tannin.
(3) Tincture of iodine.
(4) The chlorides of mercury.

The following substances, when triturated with dry antipyrine, decompose it:

(1) Calomel, which forms a toxic compound with antipyrine.

(2) Beta-naphthol.

(3) Choral hydrate, which forms an oleaginous liquid with.

(4) Sodii bicarbonas, which when brought in contact with it sets free an odor of acetic ether.

(5) Salicylate of soda, which also forms an oleaginous compound with it.

(6) The salts of quinine and caffeine, which have their solubility increased by antipyrine.—*Gaz. des Hopitaux.*

The Hypodermatic Injection of Iodoformized Guaiacol in Pulmonary Tuberculosis.

Drs. R. Massalongo and S. Silvestri believe that with a combination of these well-tried and approved remedies (1 part iodoform, 5 parts guaiacol, to 100 of sterilized oil of sweet almonds) injected into the scapulo-vertebral space, or, better, into the supra-spinous fossa, they obtained satisfactory results in eight reported cases. They conclude that it is especially indicated in the first, second, and rarely in the third stages; that the cough, expectoration, number of bacilli, fever, night-sweating, appetite, weight, and general appearance are improved; that these results are justified by the physiological properties, antiseptic, astringent, and modifying, of these drugs; that no other pharmaceutical curative method has yielded so satisfactory results.—*Gazetta degli Ospitali.—American Journal of the Medical Sciences.*

Cimicifuga in Uterine Disorders.

Dr. Boardman Reed (*American Therapist*, July, 1892) recommends the exhibition of five to twenty drops of the tincture several times a day in scanty menstruation, especially in maiden ladies. Small doses, one drop every one or two hours, will often promptly relieve frontal headache due to mental fatigue, or any kind of headache resulting from pelvic congestion. Two or three drops of the tinctures of cimicifuga and gelsemium, every hour or two, are among the most certain means of bringing on the menstrual flow when delayed by passive congestion, cold, grief, or other similar cause, and have a similar action on the lochial discharge after parturition.—*Internat. Med. Mag.*

Amorphous and Crystalline Aconitines.

Eugéne Cassariny has come to the following conclusions after a study of the different forms of aconitine:

(1) The crystalline aconitines of Duquesnel and of Mialhe, the amor-

phous and crystalline ones of Merck and of Tromsdorff all reacted about the same to the reagents used.

(2) The toxic action of amorphous forms is very variable; that of the above-named crystalline forms is about equal in all.

(3) All forms of amorphous aconitines should be avoided, they being so unreliable and dangerous.

(4) Crystalline aconitines should be administered as the nitrate, in granules only, and in doses of not more than $\frac{1}{10}$ milligram, one every two hours.—*Gaz. des Hopitaux.*

OBSTETRICS AND GYNECOLOGY

IN CHARGE OF

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THE TAMPON IN MENORRHAGIA.

Is the tampon a childish expedient in recurrent profuse hemorrhages at the menstrual epoch? In certain cases its uses has been recommended by Gehrung, by Mays, and by Reeves Jackson. Still, with the profession at large, respect for menstruation as a physiological function has a dominant influence in determining treatment.

I am prepared to admit in advance that, as a rule, menorrhagia is the result of pathological conditions, viz., of inflammatory thickening of the endometrium, with increased vascularity and polypoid growths, and of enlargement of the uterine cavity, with consequent increase of the bleeding surface. The changes in the endometrium may be due to a primary inflammation, or may be secondary to displacements, to neoplasms, to obstructions of the cervical canal, to connective-tissue changes in the uterine walls, to imperfect involution, and to retention of portions of the ovum following abortions or childbirth. In all these, and in similar instances, a rational therapeusis should unquestionably be directed to the source and origin of the evil.

But there still remain cases in which no definable cause is recognizable. The curette, uterine drainage, and internal remedies fail to afford relief. The recovery of the patient between the menstrual periods becomes more and more incomplete, and the conditions resulting from profound anæmia lead to hopeless invalidism. In such cases the question is often broached as to whether the ovaries had not best be removed. "Normal ovariotomy" is practically devoid of danger. If the removal of the tubes and ovaries is complete, the hemorrhage will cease. The relief of suffering following the removal of incurable pus tubes is one of the most brilliant achievements of modern gynecology, and is cheaply purchased by the sacrifice of the ovaries. But in the class of cases under consideration, especially if the patient be young, the loss of the ovaries has not seemed to me to be a matter of indifference. The medical men to whose care these patients ultimately fall will bear me witness that many of them subsequently display symptoms of mental and moral perversity, and that all dislike the thought that they are "different from other women."

For this reason I have been led, when other lines of treatment have proved ineffective, to resort in anæmic patients to the tampon as a means of restraint or repression at the menstrual period. By this plan opportunity is afforded for the continuous repair of the blood, and for the restoration of disordered function. At first it was with a feeling of timidity that I ventured to employ the tampon upon the first evidences of menstruation, but experience speedily showed that the practically complete repression of the menstrual flow is absolutely harmless.

However elementary it may seem, it may be well to state that the method of tamponing is not a matter of indifference. At least, personally, I have only got satisfactory results when following the procedure of the late Dr. Marion Sims. He advised, as material for a tampon, wads of cotton of suitable size soaked in carbolized water, and compressed into the form of flattened disks. These, by means of a Sims' speculum, should be applied firmly to the vault of the vagina. It is important that they should be placed with the flattened surface in a transverse direction, rather than in one parallel to the vagina, and that the packing should be arrested at the urethro-vaginal septum. At the end of twenty-four hours the tampon should be removed, the vagina should be irrigated, and a fresh tampon should be introduced. When thus employed for forty-eight hours, the flow is usually ended. In rarer cases a third application of the tampon may be called for.

It is interesting to watch, as the result of this plan, the restoration of the patient to health. In time, likewise, the normal tonus of muscular structure of the uterus is restored, and the further use of the tampon ceases to be necessary.

As an illustration of the beneficial workings of the tampon, I select the following instance:

Mrs. F., aged thirty-six years. In girlhood had obstructive dysmenorrhœa, associated with retroflexion and stenosis of the cervical canal, for which she received treatment from the late Dr. Elwood Wilson. At nineteen she married; she had two miscarriages in the first year of her married life; afterward she gave birth to three children at term. During gestation she always experienced a peculiar exhilaration and sense of *bien aise.* With the weaning of her children, which was usually delayed until the second year, the menstrual flow returned, and was characterized by great profuseness. For this the usual remedies, internal and local, were employed, including ergot, viburnum, hydrastis, tannin, cannabis indica, curetting, and applications of iodine to the mucous membrane. All were of no avail. There were no fungous growths obtained by the repeated scrapings. After the birth of the third child, I repaired a laceration of the cervix of moderate extent.

The menstrual period lasted from five to six days. For ten days following, the patient was compelled by dizziness to remain in bed or upon a couch in the recumbent posture. Gradually a neurasthenic condition developed, characterized by insomnia, multiform neuralgias, palpitations of the heart, and hysterical twitchings. For two years, owing to flatulent dyspepsia, she lived exclusively on a meat diet. Finally she withdrew altogether from society, and devoted her entire time to a contemplation of her symptoms. Her weight fell from 140 to 97 pounds.

From the time of the performance of Emmet's operation, in 1889, she lost faith in medical aid, and was guided in her treatment, for the most part, by the volunteer counsel of non-professional friends. Her husband discussed her case with an eminent gynecologist, who advised removal of the ovaries; but the proposition was promptly and indignantly rejected by the patient, whose maternal instincts were strong.

In January last, when I called to visit one of the children, I was shown by her husband the contents of a chamber, which contained fully a pint of pure blood. Similar losses, he assured me, were the rule at her menstrual periods. I at once introduced a tampon and checked the bleeding. The tampon was removed upon the two succeeding days, when the flow ended.

Acting upon the theory that the primary cause of the trouble had been protracted lactation, and that its persistence was due, not to any organic disease, but to the relaxed condition of the uterine muscular fibre, I administered iron and food, the latter at first in small quantities at short intervals, and, afterward, as her digestion improved, I persuaded her, though with many misgivings on her part, to adopt a mixed diet. Since January, with the return of each period, I have employed the tampon for two days. The patient has gained twenty-two pounds. Sleep, appetite, strength, and color have returned. All her morbid fancies have disappeared. She is one of the happiest women in my *clientèle*, and never ceases to rejoice that she still possesses her ovaries, and that she has not been robbed of the hope of some day again becoming a mother.—*William T. Lusk, M.D., in Amer. Journ. of the Med. Sciences.*

THE IDEAL DRESSING FOR THE ABDOMINAL WOUND.

One of my earliest efforts in abdominal surgery was to improve the dressing of the wound in the abdominal wall. The dressings then and now in use consisted of layers of cotton, sterilized or impregnated with antiseptic solutions, or alternating layers of various impermeable or antiseptic substances. The whole purpose of such a method clearly depends upon preventing access of pathogenic germs to the wound by heaping up impassable barriers on the patient's belly. To the practical eye noting the impossibility of affording adequate protection of this sort around the mons veneris and the creases of the thigh, where septic matter is most prone to enter, the inconsistencies are but too evident; for every movement of the patient which slides the dressings a little on the body and tends to displace them, as well as the necessary attentions to the genitals on the part of the nurse, each time open this avenue of infection. Convinced of these facts, I abandoned this form of dressing and adopted a variety of dry and moist dressings, all the time casting about in my mind to determine just what was needed to establish an ideal dressing.

The ideal dressing would seem to be a solution or paste which would quickly harden until it formed a thin, flexible, impenetrable layer over the wound and the surrounding skin, which would be thus hermetically sealed; in this way absolutely preventing any invasion of the wound from the outside, and preserving the aseptic conditions established at the operation. It would also be desirable, if possible, to add to these qualities the property of transparency, allowing the line of the wound and the stitches to remain under constant observation, noting changes without disturbing the dressing. A dressing possessing such qualifications may certainly be named ideal.

My researches have been in large measure rewarded; for, although unable to secure a transparent dressing unaffected by cotton or other protective in contact with it, I have found, and for two years past used, a dressing which hermetically seals the wound in a thin layer, with certainty preventing the invasion of pathogenic organisms from without. This dressing is easily made, simple, and always satisfactory. After closure of the incision, the skin, the line of the wound, and the sutures are dried, and two layers of sterilized gauze or cheese-cloth, large enough to project five to ten centimetres (two to four inches) beyond the incision on all sides, laid on the skin. This is saturated with the following adhesive mixture, which is evenly distributed over the whole surface:

℞. Squibb's Ether, or Washed Ether, and Alcohol, absolute........................equal parts
Bichloride of Mercury (Merck's recryst.).....
enough to make the solution............$\frac{1}{16000}$
[Anthony's] snowy cotton..................
enough to make a syrupy consistence,
added in small pieces, stirring.

As soon as this is poured over the wound evaporation begins to take place at once, and the celluloidin hardens, gumming the gauze fast to the skin. To avoid delay in waiting for this to grow quite hard, and to prevent adhesion to the cotton applied above it, the whole surface is freely dusted over with a finely powdered mixture of iodoform and boric acid.

℞. Pulvis Iodoformi.......... 4 grammes, or 1 drachm.
Acidi Borici.............. 28 grammes, or 7 drachms.
M. exactissime...............S. Dust freely on wound.

This powder is of itself an invaluable protective. I use it constantly in obstetric cases, separating the labia and throwing it into the vagina, where it acts as a guard to the vaginal outlet against septic invasion from without.

The wound thus sealed with celluloidin gauze may be left untouched for a week or more, when the dressing should be softened with water, or more rapidly with ether, the gauze lifted off, and the stitches taken out.

If there are any signs of suppuration, as evinced by pain, local tenderness, and redness, associated with elevated temperature, the dressing should be removed earlier and the discharge of the stitch-hole abscess promoted in the usual way.

The purpose of cotton heaped up on the abdomen is now no longer protective and antiseptic; it merely serves the purpose of padding out the inequalities for the application of the bandage. Common cotton may be substituted for absorbent and prepared cotton by simply sterilizing it in the Arnold steam-sterilizer.—*Howard A. Kelly, M.D., in The Amer. Journ. of Obstet.*

The Decidua in the Diagnosis of Extra-uterine Pregnancy.

Ayers (*Amer. Jour. of Obstetrics*, 1892, No. 3), from microscopical studies of the normal and diseased endometrium, reaches these conclusions: In cases of ectopic gestation, the endometrium is usually transformed into decidua. This decidual tissue is pathognomic of pregnancy. It may be removed with the curette for examination under the microscope, which, however, merely reveals the presence of the characteristic cells. The clinical history will then determine whether the condition is intra- or extra-uterine pregnancy.—*American Journal of the Medical Sciences.*

SURGERY

IN CHARGE OF

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THE PALLIATIVE TREATMENT OF ANAL FISSURE, OR IRRITABLE ULCER OF THE RECTUM.

At a meeting of the Philadelphia County Medical Society, held on November 23rd, Dr. Lewis H. Adler, jr., read a paper, the first portion of which, relating to the palliative treatment, was as follows:

There are some general rules that must always form a part of the treatment of anal fissure—to wit, to lessen as much as possible any inordinate action or distension of the bowel, and to prevent the ulcerated surface being irritated and abraded by the passage of hardened fæces.

To fulfil these indications enemata or mild aperients should be employed, and the diet must be regulated, the use of bland and unirritating foods being enjoined.

It is not possible to point out a diet that would be even generally applicable, as so much must depend upon the state of the constitution and the previous habits of the patient; but in general it should be moderate in quantity, yet sufficiently nutritious—what the stomach can digest with ease, and which has no tendency to produce constipation.

The patient should be directed to take moderate exercise; and, if the bowels are disposed to be costive, a daily evacuation should be secured by the administration of an enema of warm water, or one of rich flaxseed tea—say, from half a pint to a pint, to be given every evening, preference being given to the night-time, as the patient can then assume the recumbent posture, which, combined with the rest, affords the greatest protection from subsequent pain.

Instead of the enema, or in conjunction with its use, the action of the bowels may be regulated by the employment of some mild aperient, such as the patient has found by experience to agree with him.

All drastic purges should be avoided, as they are more or less stimulating and irritating to the extremity of the rectum.

The pain and spasm of the sphincter muscles attending the evacuation of the bowels is best relieved by the use of a suppository consisting of:

℞.—Ext. belladonnæ.....................gr. $\frac{1}{8}$ to $\frac{1}{2}$
Cocain. hydrochlor.................gr. $\frac{1}{4}$ to $\frac{1}{2}$
Ol. theobromæ.....................gr. x.

Misce et ft. suppositorium j.

One suppository to be employed about half an hour before the enema is given or a movement of the bowel expected.

Instead of the suppository, an ointment of extract of conium may be used, as recommended by Mr. Harrison Cripps: *

R.—Ext. conii..............................ʒij.
Olei ricini...............................fʒiij.
Ung. lanolini.......................q.s. ad ℥ij. M.

A small quantity of this ointment should be smeared over the parts five minutes before a passage, and again after it has occurred.

The various methods of treating anal fissure may be divided into the palliative and the operative.

Palliative treatment will meet with success in cases in which the fissure is tolerably superficial and of somewhat recent origin, especially when there is no great hypertrophy of the sphincter muscles.

Allingham† states that the curability of the lesion does not depend upon the length of time that it has existed, but rather upon the pathological changes it has wrought. This same authority states that he has cured fissure of months' standing by means of local applications when the ulcers were uncomplicated with polypi or hemorrhoids, and when there was not marked spasm or thickening of the sphincters.

It is essential to the success of the treatment of fissure, especially by local applications, that rigid cleanliness of the parts be maintained; for this purpose the anus and the adjacent portions of the body should be carefully sponged night and morning, and after each stool with hot or cold water, the temperature being regulated to suit the patient's comfort.

In applying the various local remedies, it is necessary first to expose the ulcer to view, and to anæsthetize its surface with a four or eight per cent. solution of cocaine hydrochloride, well brushed in with a camel's-hair pencil.

The application may have to be repeated once or twice, at intervals of about five minutes, in order to obtain the desired anæsthetic effect.

If any ointment has been used about the fissure, the anus should be subjected to a hot-water douche before using the cocaine, as cocaine will not exert its anæsthetic influence on a greasy surface.‡

Among the different remedies that have been used in the local treatment of fissure of the anus may be mentioned the following: Nitrate of silver, acid nitrate of mercury, fuming nitric acid, carbolic acid, sulphate of copper, the actual cautery, and chloral hydrate.

**Diseases of the Rectum and Anus*, second edition, London, 1890, p. 189.

†*Diseases of the Rectum*, fifth edition, London, 1888, p. 215.

‡W. P. Agnew, M.D., *Diagnosis and Treatment of Hemorrhoids*, etc., second edition, San Francisco, Cal., 1891, p.) .

Of these topical applications the nitrate of silver is the best. Its effects are various; it lessens or entirely calms the nervous irritation, which is so important a factor in producing spasmodic contraction of the sphincters; it coats and shields the raw and exposed mucous surface by forming an insoluble albuminate of silver; it destroys the hard and callous edges of the ulcer, and tends to remove the diseased and morbid action of the parts.

The form in which this salt is usually employed is in solution (from ten to thirty grains to the ounce). The stick caustic may be also used.

To accomplish the best results, the solution should be used once in twenty-four or forty-eight hours, according to circumstances. It may be applied by means of cotton attached to a silver probe or to a piece of wood.

The application is made by separating the margins of the anal orifice with the thumb and index finger of the left hand, and introducing into the anus the probe charged with the solution. The argentic nitrate is to be applied to the fissure only; a few drops are all that is required. If thorough local anæsthesia has been induced by the use of cocaine, the application of the silver salt produces little, if any, suffering; for by the time the anæsthetic has lost its effect, the otherwise acute pain of the nitrate of silver will have passed away.

After each application the part should be smeared well with an ointment of iodoform (thirty grains to the ounce). The odor of that drug may be disguised by the addition of a few drops of attar of roses. Iodol may be used instead and in the same way, but I prefer the iodoform, owing to its anæsthetic qualities. After the ulcer has been touched once or twice with the silver solution the effect will be, in the cases that are benefited by this treatment, a considerable mitigation of the pain from which the patient suffered when at the closet and afterward, and the sore will present a healthy, granulating appearance, and will slowly contract in size.

Some authorities speak highly of the use of acid nitrate of mercury, fuming nitric acid, carbolic acid, the actual cautery, etc., but their employment, with the single exception of carbolic acid, is attended with more suffering than follows the use of the nitrate of silver or the simple operative treatment presently to be described. Furthermore, the application of these remedies is not so certain to effect a cure as either of the two procedures just mentioned.

The daily introduction of a full-sized bougie made of wax or tallow will sometimes act beneficially in cases of fissure by strengthening the sphincter and producing such an amount of irritation as will set up a healing process in the ulcer. An application of cocaine or of belladonna ointment should be made to the part previously to the employment of the bougie.

In children and young persons, unless a polypus or a polypoid growth, or a congenital contraction, complicates the fissure, it is almost always curable without operation. In children suffering from hereditary syphilis, numerous small cracks around the anus are common, and they cause much pain. Mercurial applications and extreme cleanliness soon cure them, but they will return from time to time unless anti-syphilitic medicines be taken for a lengthened period.*—*N. Y. Med. Jour.*

FURTHER REPORT ON ASEPTIC AND SEPTIC SURGICAL CASES, WITH SPECIAL REFERENCE TO INFECTION OF THE SKIN.

Lockwood, in the *British Medical Journal*, May 28th, 1892, continues the report which appeared in the issue of the same journal of October 25th, 1890. Inoculations on culture media have been continued. A few wounds have remained sterile ; these cases are cited. As a rule, however, microbes could be demonstrated. Bloch, in a series of forty-six cases, secured aseptic wounds in but two instances. Halstead has also demonstrated pyogenic organisms in wounds after operations performed in the most careful manner.

Lockwood says: "There is no plan which can allow the so-called harmless microbes to enter a wound and at the same time keep out the harmful. Nor can we rely upon the vital resistance, phagocytic power, or microbe-destroying properties of the fluids and tissues of the body. They are faculties beyond control, while asepticism is not."

The skin also harbors the staphylococcus aureus and albus, as well as others which are pathogenic for man. Aseptic surgery must therefore look for advancement to a more thorough means of disinfecting the skin, and to this object many surgeons are now directing their attention.

In the first place, when proper care is exercised in preparing the materials used in the performance of the operation, the sourses of infection can be narrowed down to (*a*) the hands of the operator and of his assistants, and (*b*) the skin of the patient. The atmosphere is not a danger. The culture-tubes have been left open for hours in operating theatres and rooms, and they have not become infected ; and gelatin spread out in dishes has had the same immunity. But any danger of infection from the atmosphere has been provided for by filling the wounds with perchloride of mercury lotion, 1 in 2000, squeezed from a sponge, or, in large and deep wounds, discharged from an irrigator.

It is quite otherwise as regards the skin of the surgeon's hands and arms. A great deal has been written about the sterilization of the hands and of the skin, but it is evident that the usual precautions are not sufficient.

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*Allingham. *Op. cit.*, p. 213.

In a case of removal of a chronic mammary tumor, although the skin had been washed and scrubbed until the woman complained, had been washed in 5 per cent. carbolic solution, covered for eighteen hours with an antiseptic dressing, and finally washed, just before the operation, with perchloride of mercury lotion, 1 in 1000, nevertheless a bit of this skin infected culture-tubes with cocci, streptococci, diplococci, and bacilli such as are usually found in the skin. The reason for this failure to disinfect the skin was shown in the following way:

A cover-glass preparation of the contents of a sebaceous gland stained with fuchsin shows that sebum is a mass of cocci, diplococci, and bacilli, together with occasional epithelial cells. After an area which has numerous sebaceous glands had been washed with soap and water, then with perchloride of mercury lotion, 1 in 1000, and lastly with absolute alcohol, its glands were squeezed and cultures inoculated from its surface. The result was a plentiful growth of long and short bacilli, leptothrix, monococci, diplococci, and staphylococci. In a similar way the properties of the sweat glands were shown. A perspiring surface was washed with soap and water, then with perchloride of mercury lotion, 1 in 1000, and afterward with absolute alcohol. As soon as the sweat reappeared, nutrient material was inoculated with it, and grew quantities of staphylococci, and in old cultures some bacilli and leptothrix. Thus there was a slight difference in the first results of these experiments. Sweat glands gave a growth of cocci with few bacilli, whilst sebaceous glands gave bacilli with few cocci.

It was found that when a fluid composed of skin scrapings suspended in normal saline solution was injected into the auricular veins of rabbits, some died at once—killed, perhaps, by the coarse particles; others died some days or weeks afterward. A strong, healthy animal wasted and died twelve days after the injection. It had diarrhœa, and its cage was constantly wet. In another the symptoms were the same, but there was also suppuration at the seat of inoculation, and a considerable inflammatory œdema of its neck. After it had been killed, infarcts were found in its kidneys, and there were areas of pleuro-pneumonia in the lungs. In another animal the kidneys seemed to have escaped, but the lungs contained many infarcts.

These effects might possibly have been caused by the particles of epidermis, and therefore the experiments were repeated with gelatin cultures which had been inoculated with the same kind of fluid—namely, normal saline solution mixed with skin scrapings. The gelatin was rapidly liquefied, and contained a great many kinds of microbes—cocci of various sizes, diplococci, staphylococci, chains of from four to twelve cocci, some consisting of large, others of small elements, numbers of very small, short bacilli aggregated into small groups, a larger spore-containing bacillus with rounded ends, and leptothrix. This fluid seemed more virulent than a mere solution of skin scrapings. An intra-venous inoculation of from five to ten drops soon made the rabbits ill; they ceased to feed and became emaciated, and their cages were constantly wet. The lungs were the organs most attacked, and in the early stages were engorged and inflamed, especially at their periphery.

Thus the skin contains microbes which are pathogenic for mice and rabbits. But it also constantly harbors staphylococcus aureus and staphylococcus albus, which are pathogenic for man, and Eisenberg gives a list of others which, if less known, are equally dangerous.—*American Journal of the Medical Sciences.*

Chancre of the Left Eyelid.

W. Goldenberg presented to the Society of German Physicians in New York a case of ulcus durum which had been under observation for three weeks. The patient sought medical relief from a painful swelling of the left eyelid. On examination of the lower eyelid a well defined superficial ulcer on the border of the skin and mucous membrane, about the size of a ten-cent piece, was found. Swelling of the preauricular and submaxilliary glands, also a maculæ-papular enytin were also present. The source of infection was probably a towel. The patient was a waiter in a hotel where 150 waiters are employed, who were all using the same towels. G. calls to notice that swelling of the preauricular and sub-maxilliary glands are always present in chancre of the eyelids.—*Pacific Med. Jour.*

Intubation of Larynx.

Dr. Egidi has done intubation of the larynx for croup 60 times. Four of these were in children of one year or under, 28 in children of from one to three years, 24 in children of from three to six years of age. If 2 deaths that took place just at the moment of operation be deducted, he had 11 cures for 47 deaths—that is, 19 per cent. He says: "The operation was generally easy; the tube was expelled but once; feeding was done without much trouble."

Taking all things into consideration, the results are not better than those of tracheotomy. They are even less favorable.—*Prog. Médical.*

Hemorrhage after Tonsillotomy.

Dr. Buisseret, of Brussels, contends (*Rev. de Lar.*, *d'Otol.*, etc., No. 22) that hemorrhage a few hours after the operation is favored by the previous application of cocaine, which he attributes to vascular dilatation succeeding the immediate constriction produced by the topical use of the drug.—*American Journal of the Medical Sciences.*

PERFORATING ULCERS OF FOOT.

M. Tuffier showed before the Surgical Society of Paris a patient on whom he had done a double Chopart amputation for perforating ulcer of the foot. The patient walks well.—*Gaz. des Hopitaux.*

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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PUS IN URINE—HOW TO DISCOVER ITS SOURCE.

At a recent meeting of the New York Academy of Medicine, Dr. Keyes opened the discussion on the above topic. He said that the question could be discussed in a general way. He would assume in these general discussions that no knowledge of the cystoscope or the endoscope was necessary, and only a very slight knowledge of microscopy. It is a fact that a great many physicians are not at all acquainted with what pus is. Pus is not the healthy mucous cloud that always collects in the urine; it is not an excess of that mucus; it is not bacteria; it is not phosphates. Pus in the urine is in the form of a granular deposit, dirty white or pinkish in color, or it may have a stringy appearance which is called by some stringy mucus. There is no such thing as stringy mucus. The stringy form of pus indicates that some portion of the genito-urinary tract is in a condition of abrasion or ulceration, and that there is decomposition of urine, and with the pus mucus is present. It means catarrh of some portion of the genito-urinary tract. These shreds that occur in the urine are practically of three kinds; the linear, the tad-pole shred, and the fleecy, cotton-like thread. The linear shred, as a rule, may be presumed to come from the anterior urethra. The origin of the tad pole shreds is limited to no particular area; they come from a little follicular abscess, or from a granular or excoriated spot in the membranous urethra. The fleecy, cotton-like shred is generally from the prostatic sinus; if spermatozoa are present, it is more than presumptive evidence. When the pus exudes from the meatus, it is almost conclusive evidence that the trouble lies anterior to the bulbo-membrane junction, although occasionally its source is posterior to that, especially if there has been sexual excitement. In spermatorrhea and posterior ur thritis a little comes out at the meatus, but a free flow of pus usually indicates that the anterior urethra is in trouble. If the question is in doubt, you can clear it up by irrigating the anterior urethra with a solution of salicylic acid and then putting in an ordinary bulbous sound, as big as will go down to the junction, and leaving it there for thirty seconds or a minute. On withdrawing the sound, if the pus has come from the anterior urethra, there will be on the shoulder of the bulb of your instrument a little soft scab, perhaps tinged with blood. In posterior urethral pus, there is no better expedient than first washing out the anterior urethra, and then making your patient urinate in two parts. Practically, the pus will be found in the first specimen, while the rest will be reasonably clear. If you suspect that the pus originates in a prostatic abscess or the seminal vesicles, you may be able to settle this by making your patient pass his water in three parts; first let him pass about one-third; then put your finger into his rectum and press upon the seminal vesicle or the prostatic abscess, if you can appreciate it; by milking the focus of suppuration in this way, you will find the discharge of pus in the second flow of urine. The third flow will be comparatively clear.

The great trouble is to distinguish between bladder pus and kidney pus. The characteristics of the two, however, are very different. If the pus has its source in the kidney, it is not flocculent; it is cheesy and heavy, and does not float around like pus from the bladder. It settles down to the bottom of the vessel. Bladder pus, on the other hand, is stringy in appearance. Urine containing bladder pus will quickly decompose; when passed it is frequently ammoniacal or neutral. In pyelitis the pus will often come in urine that is over-acid, and it will remain clear and acid perhaps for a week. When blood and pus are both present in the urine, the blood will fall later than the pus, and will remain as a little thin layer on the top of it.

Another distinguishing consideration is that the amount of albumen in urine is relatively greater when the pus present comes from the kidneys than it is when it comes from the bladder. If the amount of albumen is relatively high, then the probabilities are that the pus comes from the kidneys. However, if you have an ulcerated surface in the bladder, caused by cancer or stone, then you may get a considerable amount of albumen with the pus, but under ordinary circumstances the above statement holds good. If the urine contains a lot of granular pus, with perhaps one-half per cent. of albumen (by weight), you may be almost certain that you have a case of pyelitis.

Another exceedingly good way to differentiate these two conditions is by washing the bladder. You first have your patient pass his water in two parts, each of which is opaque. Then pass a soft catheter into the bladder; if you find that he is not able to empty his bladder completely, it is presumptive evidence of cystitis. Through the catheter wash the bladder with a salicylic acid solution until it is perfectly clean. Let the patient rest for an hour and then urinate; if the urine is still very cloudy, then it is probable that the pus comes from the kidney.—*The American Practitioner and News.*

AN EFFICIENT METHOD OF CONTROLLING HEMORRHAGE AFTER SUPRAPUBIC PROSTATECTOMY.

As the operation of prostatectomy is almost invariably performed on subjects who are already debilitated and anæmic from constant suffering and want of rest, who in addition to their age not infrequently are afflicted with some kidney lesion, the importance of preventing as far as possible loss of blood, with its attendant shock, is easily recognized.

With this in view, Dr. Keyes has devised a method which certainly seems to be more rational and effective than any which have preceded it.

This consists in the use of a plug or tampon of bichloride gauze. A square of four thicknesses of gauze is first cut, the length of each side being about six inches. Upon this are placed eight thicknesses of gauze cut square, each side measuring four inches, and upon this eight other thicknesses of gauze also square, the side measuring three inches. Centrally upon the three-inch pad a small white shirt-button is tied by stout silk ligatures, transfixing the pad and tied upon the six-inch square surface. This central button also has a piece of silk attached to it, running out freely in the direction away from the three-inch surface. This is to facilitate extraction. Each of the corners of the six-inch pad is stoutly tied with a piece of silk, and the silk from each of these four corners is knotted at its end into a double knot, while the silk running out backward from the button is tied with a single knot, for the purpose of distinguishing which is which when making the extraction ; although practically it will be found that they must all be made taut and pulled upon all together in order to effect removal with the greatest care and facility.

In the first of Dr. Keyes' cases, he passed a soft bulbous olivary French catheter through the urethra into the bladder and out through the suprapubic wound, and tied the double silk upon the end of it, and with the silk making traction along the line of the urethra he drew the tampon powerfully down into the funnel-shaped excavation of the prostate, and tied the double ligature over a piece of soft gauze at the urinary meatus upon the relaxed penis.

In the second instance (because the patient also had deep urethral stricture), a perineal urethrotomy was made, and by direct traction through the perineal incision upon the tampon it was drawn firmly into place, and the strings tied over a gauze perineal pad.

In both instances the subsequent removal of the pad was comparatively easy, and its effect in carrying out the function for which it was designed manifest, and satisfactory.

Dr. A. T. Cabot, of Boston, having used this tampon in one case with admirable success, has devised a modification in the construction of the plug which perhaps might render it more easy of removal. This consists in a long strip of gauze, the edges of which can be rolled in and stitched so that there should be no loose, frayed edges, and which could then be doubled as is done in making a conical compress, and run on silk to which is attached a button. It could then have another thread attached to the upper end to remove it by. This could be drawn into the neck of the bladder as firmly, he thinks, as any compress; but on loosening the thread which passes through the perineum and then drawing on the upper thread, it would come out in a long strip, much as does the packing which one applies to a bleeding uterus.

In these cases drainage takes place entirely through the suprapubic opening, which must be kept open in order to remove the tampon.—*Edward L. Keyes in N. Y. Med. Record.*

A MANIPULATIVE MISTAKE AND ITS CONSEQUENCES.

This paper was read by Dr. George Ross, of Richmond, Va. He related the case of a woman who had suffered from unremitting, agonizing tenesmus, the result of a mass which she had carried for seven years in her bladder, and which had proved on inspection to be a pleget of absorbent cotton once saturated with iodine, in shape a truncated cone, and thinly incrusted with phosphate of calcium. The patient believed that it had been introduced by her first physician, who, when attempting to apply some intra-uterine dressing, had mistaken the urethra for the cervical canal.

HÆMATURIA.

Dr. Willy Meyer, in referring to the value of the cystoscope in making a differential diagnosis in cases of hæmaturia, says: "This instrument has shown that most of the old-fashioned rules which governed us in making our diagnosis were erroneous; only this one rule is still considered to be correct, that if at the end of a discharge of urine blood exudes, it comes from the bladder or prostate."

PEDIATRICS

IN CHARGE OF
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in the Woman's Medical College.

AN HOUR IN THE OPERATING ROOM OF THE HOSPITAL FOR THE RUPTURED AND CRIPPLED, NEW YORK, OCTOBER 28, 1892.

Lorenz-Operation for Congenital Dislocation of the Hip. Fully described in *Centralblatt für Chirurgie*, 1892, No. 31.

CASE 12. James H., a boy, five years of age, with congenital dislocation of left hip, inches shortening. Details of operation as follows: One assistant making traction and abduction on the limb, another counter-extension by means of a canton flannel bandage through perineum and over the upper end of operating table; subcutaneous myotomy of abductors, tendons, and all bands within reach; then flexion of thigh, which brings into prominence the muscle attached to the tuberischii; division of these muscles subcutaneously through a second punctured wound; firm traction and abduction brings limb down equal in length with its fellow; an incision two and a half to three inches in length, extending from the anterior superior spinous process vertically down the limb, exposing the fascia lata; this cut transversely, exposing the tensor vaginæ femoris and the sartorious; muscles now separated by retractors, when the capsule of the joint is exposed; finger inserted to recognize the tendon of the rectus femoris, which is divided; capsule opened and cut away throughout its anterior and inner aspects: head of the bone now fully exposed, which is flattened and shaped somewhat like a lozenge; ligamentum teres found very wide and lying loosely over the head; this ligament cut away and finger inserted into acetabulum, which is found very shallow; then, with finger as guide, a sharp spoon on end of the flush, gouge cuts away a depression in the acetabulum toward the upper and outer border, leaving this border, however, intact; a good cup-shaped depression is thus made, into which the head of the bone is placed, when limbs are found to be of exactly same length. Limb put up in extension and abduction at an angle of about twenty degrees with the body; catgut drain inserted; wound sewed up by continuous suture, antiseptic dressing, plaster of Paris reinforced by curved steel on the outer side, plaster extending from the nipples down to the malleoli. Under the plaster, however, adhesive strips applied for traction. This being the first operation of the kind, it required about three-quarters of an hour for its completion.

November 1st. The child has done well since operation; a little elevation of temperature yesterday, but down this morning.

Lorenz argues that the muscles which oppose the reposition of the head of the bone into the acetabulum are the long muscles running in the line of the shaft; that the subperiosteal denudation of the head of the bone and trochanter is unnecessary, and adds much to the danger of the operation. He endeavors, by subcutaneous myotomy under extension and counter-extension, to bring the head of the bone opposite the acetabulum before opening the joint. This author has operated four times with primary union; patients being able to support weight on the operated side in three or four weeks. No final results given.

Case 13. Sadie E., three and a half years of age, with femoral adduction resulting from an operation done by Hoffa, of Wurzburg, in this hospital about one year ago, for congenital dislocation of the hip. Hoffa operated at that time by a straight incision above and over the trochanter major, exposing the capsule by vertical incision, cutting away the ligamentum teres, scooping out the acetabulum in its upper portion, replacing the head, and putting the limb up in moderate abduction. This case did badly from the first. Suppuration followed. The immediate result was not good; in fact, the child has been under splint treatment for nearly a year, and now has three-quarters of an inch shortening, the same as before operation, and limb is in adduction, though the movements of the joint are good.

The operation, this morning, was to simply stretch the adductors, put the limb up in abduction, and hold it in plaster of Paris.

Case 14. Morris C., a boy, about ten years, with talipes equinus; hemiplegic; extreme. Simple subcutaneous tenotomy, with over-correction of deformity; plaster of Paris dressing. In addition to the foot deformity, he has wrist-drop, an extremely attenuated hand and forearm, but no treatment adopted for the upper extremity.

November 1st. The foot has swelled a little, but the boy has suffered comparatively little. The plaster is removed this morning, and the foot is put up in better position. No excoriations found. Up in wheeled chair. —*V. P. Gibney, M.D., in Archives of Pediatrics.*

Two Cases of Hemorrhagic Bacteremia in the Newborn.

Tavel and Quervain (*Centralbl. f. Bakteriol. u. Parasitenk*) have reported the case of a premature male child, in which infection of the umbilicus was noted a few days after birth. On the tenth day multiple and rather extensive hemorrhages took place beneath the skin. At the same time rigidity of the skin of the lower extremities was observed. The child died on the thirteenth day. At the *post-mortem* examination, in addition to the subcutaneous hemorrhages, the epidermis was found detached in places. A small amount of pus was present at the umbilicus the pleural cavities contained bloody fluid there was double hemorrhagic pneumonia; hemorrhages had taken place beneath the pleura and the mucous membrane of the stomach and intestines, and into the parenchyma of the kidney. In the blood from various sources, in the tissues of the various organs, and by cultivation, streptococci were found in considerable numbers, with a small number of staphylococci. In a second case, also in a premature child, the signs of pneumonia appeared on the tenth day, and death took place on the twelfth day. At the *post-mortem* examination, double pneumonia was found; there were, besides, hemorrhages beneath the epicardium, beneath the dura mater, into the pia mater, into the cerebral substance, and into the ventricles. In the blood, by cultivation, and in sections of the lung tissue, staphylococci aurei were found in great preponderance. The special feature of the cases resides in the occurrence of the hemorrhages, which cannot be ascribed to external influences, as the labors took place without instrumental intervention. The inference is clear that infection took place by the umbilicus. The infants, by reason of premature birth, were less able than mature children to resist the invasion and multiplication of the organisms.—*Medical News.*

Three Infective Diseases Incubative at the Same Time.

Dr. Nash, in the *British Medical Journal*, reports that he had recently under his care a child, aged 3½ years, in whom was developed within a week the following infectious diseases, in the order named, namely: Whooping-cough, chicken-pox, measles. The incubative period of pertussis is stated to be a few days, that of chicken-pox to be variable, and that of measles from seven to ten days, and the point of interest is that three distinct poisons (microbic?) should flourish in the one *corpus vile*, and come to full maturity at one and the same time.

Gout in a Child Eleven Years Old.

Marboux (*Lyon Médical*) has reported the case of a girl, eleven years old, in which, after a brief period of malaise, sore throat, and difficulty in swallowing, pain, redness, and swelling appeared at the metatarso-phalangeal joint of the right great toe. On the following day the symptoms subsided with the abruptness with which they had appeared; some discoloration, pain, and swelling, however, persisting. A day later, the great toe of the left foot became similarly involved. Forty-five grains of sodium salicylate were administered in twenty-four hours, and decided improvement followed. There was no doubt from the mode of onset, from the appearance of the affected parts, and from the progress of the case, that the condition was gout. There was no family history of gout on either the father's or on the mother's side. The father had, however, eighteen months previously, had an attack of the same kind as the child. The child did not suffer from migraine or from gastric disorder, or from cutaneous eruptions; nor had menstruation occurred.—*Medical News.*

DIPHTHERIA BACILLI UPON THE FAUCES OF PATIENTS CONVALESCENT FROM THAT DISEASE.

Tobiesen (*Centralbl. f. Bakt.*) found Lœffler's diphtheria bacillus upon the fauces of twenty-four out of forty-six patients convalescent from that disease, about to be discharged from the hospital. In these cases the disease had not been unusually severe, and the patients were discharged after a period of seclusion of the average duration. From these investigations, it seemed possible that one-half of the discharged patients might be sources of contagion. Tobiesen was able personally to ascertain the facts in twenty-one of the twenty-four cases, and his inquiries showed that one only had (probably) been a source of infection. He therefore infers that the community is practically subject to no risk from patients discharged convalescent from diphtheria, notwithstanding that many of the latter probably still have the specific bacilli upon the fauces and adjacent parts at the time of discharge.—*British Medical Journal.*

SPASMODIC MOVEMENTS OF THE HEAD IN INFANTS.

Petersen reports five cases of rotatory spasm of the head in infants. He proposes the term "gyrospasm" for the condition, but does not seem to suggest that its etiology is different from that of other spasmodic movements, such as nodding, also observed in infants. In one case only was there any associated nystagmus, and in this the movement was confined to one eye. In another case there was convergent strabismus. The gyrospasm was first noticed in one case at 3 months of age, in one at 4 months, in one at 5 months, in one at 7 months, and in one at 8 months. Taken together, therefore, the cases do not support Henoch's view that dentition is a cause. Petersen suggests that in most of the cases cerebral concussion will be found to be the determining factor, and observes that in adults concussion, if severe, may give rise to a rapid, though temporary, nystagmus. The prognosis, he believes, is good, but recovery may be hastened by the administration of bromide of potassium, in doses of from 1½ to 3 grains thrice daily.—*Medical News.*

PATHOLOGY

IN CHARGE OF

JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,
Professor of Pathology University of Toronto and Ontario VeterinaryCollege; Pathologist to Toronto General Hospital and Home for Incurables.

THE GERM THEORY IN RELATION TO CANCER.

From present indications, it would seem highly probable that cancer will presently be added to the list of diseases depending for their causation upon the growth of some form of germ. Virchow, in 1851, described the occurrence in the epithelial elements of carcinomota of certain bodies which he took to be young epithelial cells; the process by which they originated he spoke of as "endogenous cell formaton." Judging from Virchow's description, one cannot avoid the conclusion that the founder of modern pathology saw those bodies which many recent workers regard as parasites, and as the probable exciters of the cancerous process.

The discoveries of the vegetable germs of anthrax, and, later, of tuberculosis, followed, as they were, by others belonging to the same kingdom, naturally led many to expect that the cause of cancer would be found amongst the bacteria, and, working with this expectation, more than one investigator has claimed to have discovered the desired organism. Notable amongst these were Scheuerlen, Kubasoff, and Russell. The results of none of these men have stood the test, however, and more recent investigators would have us believe that the cause looked for is to be found, not in the vegetable kingdom, but amongst the lower forms of the animal kingdom—the protozoa. Since the publication of the observations of Darier on follicular psorospermosis, and of Pralassez and Albarron on coccidia in epithelioma in 1889, a great amount of labor has been gone through in the attempt to settle the question as to the relationship of these or similar organisms to cancerous growths. Those who wish can find a historical sketch of this work in the article on "Parasitic protozoa in cancerous tumors" by Ruffer and Walker, in the *Journal of Pathology and Bacteriology* for October, 1892.

In the above article, Ruffer and Walker describe a number of different cell forms which they have been able to demonstrate satisfactorily by new methods of staining, and of which they present very careful and beautiful drawings. They do not claim that similar appearances have not been observed before, but do think that their methods place the parasitic charac ter of these cells beyond question. It is worth noting that E. Metchnikoff, who has inspected these slides, believes that they have accomplished all that they claim. The organisms are described as occurring singly or in groups *within* cancer cells only, and in the growing parts of a cancer. In only three cases out of a large number examined were they not to be found. Ruffer has, since the appearance of the above published a note in the *British Medical Journal* of Nov. 5, 1892, in which he claims to have seen the development of the parasites within the cell nuclei, and their final escape from the nucleus into the cell protoplasm.

That carcinoma is infectious, and therefore most probably parasitic, has been proven by the experiments of Hanan on rats. It is said also that in one instance, at least, transplantations have been successfully carried out in the human being, *but these* were from one part of the same person to another. It has hitherto, however, been found impossible to infect an animal with cancer taken from another of a different species. This is curious, in view of the supposed fact that epithelial cells transplanted from one animal to another, *e.g.*, frog to man, in skin grafting, will grow. We cannot yet be said, then, to have gotten further in our proof than the first postulate of Koch, if even so far.

Tizzoni's Fifth Case of Traumatic Tetanus Treated with the Blood of an Immunized Animal.

The patient presented a bruised, lacerated wound of the middle finger of the left hand, much contaminated with earth. Twelve days after the infliction of the wound, the first symptoms of tetanus appeared. In order to remove the focus of disease and prevent the spread of tetanic poison, Tizzoni ordered the amputation of the damaged finger. This was carried out, and at once injections of blood serum from tetanus-immune rabbits commenced. In all, there were sixteen injections of from 2½ to 5 c.cm. of serum, and six injections of altogether 1.35 gr. of antitetanine separated from blood serum of rabbits. Recovery took place. The quantity of serum used amounted to 40 c.cm.—*Centrabl. für Bakt. u. Parasit*, Dec. 12, 1892.

[It is worth noting in this connection that recovery is said to have followed amputation alone in cases of tetanus.—J.C.]

The Thyroid Gland and Myxœdema.

M. Moussu reports to the Biological Society of Paris that he has performed a large number of thyroidectomies in young animals, and finds that their development is thereby impaired and an atrophic cretinism or myxœdema induced.

H. W. Cunningham reports to the *British Medical Journal* of Dec. 10, 1892, that he is at present attending a typical case of myxœdema in which the thyroid is much enlarged. His explanation, probably the correct one, is that the enlargement is due to fibrosis, and that the gland elements proper have undergone atrophy.

It is a curious fact, and one requiring explanation, that thyroidectomy in the horse, an operation not infrequently performed, is *not* followed by myxœdema, nor apparently by *any* bad results.

Micro-Organisms in the Milk of Healthy Lying-in Women.

Paleske concludes, as the result of a series of researches, that micro-organisms are to be found in the milk of many healthy women, possibly in 50 per cent. These germs belong to the cocci, and solely, as far as Paleske has himself determined, to the variety known as staphylococcus pyogenes albus. It is doubtful whether the germ reaches the mammarygland through the blood current or enters the ducts from without. It is certain that the staphylococcus may actually abound in milk fresh from the mammary gland without the simultaneous or consequent occurrence of inflamed breast or general symptoms of fever.—*Epit. of Cur. Med. Lit.*, *Brit. Med. Journ.*, Dec. 10, 1892.

The Effect of the Bichloride of Mercury on the Kidney and Intestine.

MM. Pilliet and Cathelineau have studied the effects of minimum doses of bichloride of mercury on the kidney and intestine. The cells become vacuolated, rupture and fall out necrosed. The vessels are engorged, dilated, and allow the blood to pass through. The lesions observed in animals, the dog or rabbit, do not differ in any way from those found in man poisoned by the sublimate of mercury.—*Prog. Médical.*

Editorials.

THE CANADIAN PRACTITIONER.

We have said good-by to our old form of publication, and have adopted the best approved among modern styles in medical monthly journals. Form and style, however, while good enough in their way, are only secondary matters in connection with medical publications. Quantity and quality are much more important. Our readers will notice that this issue contains eighty solid pages of reading matter, and will, probably, willingly admit that no complaints should be made about the quantity. Many will think that quality is of more importance than either style or quantity, or both combined. With such we are inclined to agree, and it is our intention to make a vigorous effort to make THE PRACTITIONER acceptable in all respects to all classes of medical practitioners.

The Editor begs to tender his thanks to all those who have given valuable assistance to THE PRACTITIONER during the last seventeen years. He has, fortunately, good reason to hope that nearly all the contributors of the past will continue to render substantial aid in the future. It has been deemed advisable to reorganize the editorial and literary staff; and the result of such a departure will be seen in this and future issues. The various departments of medicine have been placed under the charge of competent men, who assume full responsibility for the matter which, in in the future, will appear in the pages assigned to them. The Editor will still be responsible for all matters contained in the editorial columns; but he will receive the active co-operation and assistance of Drs. Ross, Caven, and King, who have consented to act as associate editors.

In the improvements which have been effected, the publishers have more than done their share. The editors and collaborators highly appreciate the determination which they have shown to furnish a first-class journal—a medical magazine on which it will be a pleasure for its contributors to work. We do not intend to make any extended comments on a change which is very expensive, as far as outlay is concerned. We are willing to let this journal speak for itself; and, if it pleases the professional public, let physicians and surgeons in Canada and the United States show their appreciation in a way that will be satisfactory to The J. E. Bryant Publishing Company.

McGILL MEDICAL FACULTY AND MR. OSLER.

McGill Medical College is certainly fortunate in having a strong support from Montreal's most intelligent and wealthy citizens. The numerous generous gifts to that very worthy institution have done much to assist its faculty in many respects. It was freely stated in the lay press last month that strong efforts were being made to bring back Dr. Osler from Baltimore to Montreal; and, with that object in view, a prominent citizen had offered to give $100,000 towards the endowment of a chair in medicine, and other substantial assistance in addition, if the desired result could be accomplished.

We do not know that any definite proposal has been made to Professor Osler; but we are certain that his friends in all parts of Canada would gladly see him again settled in our Dominion. Since he left, Montreal has suffered great losses through the deaths of Howard, MacDonnell, and Ross—all, as it happened, connected with the department of medicine. His return would do much towards filling the tremendous gap. Little wonder is it that McGill's friends appreciate this, and show a willingness to offer strong inducements for his return.

What Mr. Osler's views or intentions are, we know not; but we cannot but recognize the fact that he occupies now probably the most desirable and most honorable position open to physicians in the world. While he has done much in the past, he is likely to do more in the future; he has magnificent opportunities for the sort of medical scientific work he likes, and grand possibilities before him. The friends of Johns Hopkins expect much from him in the further development of their great hospital, their laboratories, and their proposed medical school, and, in equity, have certainly a very strong claim on him. Considering all the circumstances, it seems unlikely that Mr. Osler will come back to dwell in Canada, at least for some time to come.

THE MEDICAL COUNCIL.

As weeks and months pass, it seems more and more deplorable that the Council and the Defence Association cannot come to something like an agreement. At the conference, to which we have before referred, they appeared to be coming close to each other; but, since that time, the signs are that they are seriously diverging. While the majority were waiting for the final touch of diplomacy which was to heal the breach, the Sangster cyclones appeared. To call Dr. Sangster's letters broad, liberal, and conciliatory would probably occur to no one. Clever they were; but what possible good can they do? There can be no doubt that, since their appearance, Defence stock has gone down somewhat. The association is not dead, however, nor even in a sickly condition. Many of its members are strong, honest men, who are determined to wage what they think is a righteous war. Without, however, the slightest desire to offend men whom we respect very highly, we have to say that some of them hold views which must be considered extreme.

The "legislation committee" of the Council, composed of Dr. Fowler (president), Dr. Campbell (vice-president), Drs. Day, Bergin, and Britton, met in Toronto, December 11th, and considered certain proposed changes. The Defence Association desire to abolish university and school representation. The committee thought, with reference to this, that as the Council on a former occasion had asked the Legislature for a reduction of such representation, and had been refused because such institutions had vested rights which they surrendered for a consideration (representation) when the Council was organized, it was useless to renew the request. The members of the committee appeared to agree with the Government that certain universities and schools had vested rights.

With reference to the annual assessment, and the penal clause, the committee decided that as the Defence representatives had refused to accept the proposition made at the joint meeting, that (1) the assessment clause should stand, but that it should be left to the honor of physicians to pay the fee; (2) that the penal clause should be inoperative until after the next election—the clauses should be left as they now stand until after the next election in the Council. The committee had no objection to an increase in the number of territorial representatives, excepting in so far as it involved extra expense.

A DECORATED QUACK.

The cable notes published by the daily papers recently contained a notice of the conferring of a decoration upon one Pastor Kneipp, of Munich, by Prince Regent Luitpold, of that city, "for his discoveries in the water-cure mode of treating disease." The decoration is believed to have been secured for the clerical meddler in the physician's art at the instigation of no less a personage than the Empress of Austria, whose feats of daring and skill as a horsewoman, as well as her great personal beauty in her younger days, have made her famous, and who has recently derived much benefit from the treatment recommended her by Kneipp. His method of water-cure consisted of inducing the Empress to do what any regular physician of whatever standing would have lost his official head for proposing—to drink three quarts of water per diem, to run barefooted through the wet grass for a certain length of time at daybreak, and to leave off corsets. The regular and conscientious physician will of course recognize the value, under certain conditions, of at least the first and the third of these items in the "course of sprouts" to which the royal beauty has submitted, and even of the second, the doffing of her boots being evidently meant to divert the royal mind from the fact that she is getting vigorous exercise at the most invigorating and enjoyable period of the day; but who but an ingenious and irregular practitioner could even induce an Empress sadly inclining to *embonpoint* to leave off her corsets? And is not the man who can prove the connection between the abandonment of corsets and "discoveries in the water-cure method of treatment" worthy of a decoration? The incident only shows again what has been already proved to demonstration a hundred times—that the public dearly loves humbug; that human nature in this regard, as in many others, is the same in the circles of royalty as in the gaping crowd that surrounds the long-haired puller-of-teeth on the street corner; that in matters where each is equally ignorant intelligence in other matters counts for nothing, or rather less, in what pertains to the healing art; and that, as Dr. O. W. Holmes says, the fact that a man is a thorough gentleman, an accomplished scholar, a conscientious and consecrated bishop of an enlightened church, as was the late Bishop Bukely of tar-water fame, does not make a physician of him. It would seem indeed at times that the more freedom and accuracy of judgment, and the higher the standard of general information that prevails in a community, the more readily do the educated and influential lend themselves to frauds, based without an exception upon the *post hoc vel simul cum, ergo propter hoc* fallacy, upon which, for instance, homœopathy depends for its existence. The concluding sentences of the report of the British Medical Association's investigation committee on the matter of cancer cure is a relevant conclusion to this article: "The savage trusts to his armlet; the civilized man, both in the upper and lower circles, submits himself with childish, if not childlike, simplicity to the pretences of the quack. It is a strange world: but, such as it is, open and honorable medicine has to live in it, and work in it, and must make the best it can of so wonderfully varied an environment."

INTRA-UTERINE INJECTIONS OF GLYCERINE TO INDUCE LABOR.

Intra-uterine injections of glycerine have lately been employed for the induction of premature labor by Pelzer, in Germany, who reports five cases, four of which were successful. Dr. Clifton Edgar, of New York, has used Pelzer's method in two cases, in which the results were very satisfactory, as shown by his report (*Medical Record*, Nov. 26). Dr. Edgar describes his procedure and the results in the case as follows: "The woman was brought to the edge of the bed, the bladder emptied, and the vulva and vagina were scrubbed with green soap and water, and, finally, with a solution of bichloride of mercury, 1 to 2000. Then, under the strictest aseptic and antiseptic precautions, the anterior cervical lip was seized in the grasp of a double volsella forceps, and the cervix drawn nearly to the vulva. Half an ounce of sterilized glycerine was then slowly injected between the membranes and the uterine wall by means of a No. 9 (English scale) braided silk catheter, connected with a simple glass syringe. The catheter was introduced to a distance of eight inches from the external ring of the cervix. No pain was apparently caused by the operation, and the woman, in the dorsal position, with her hips raised by pillows, was left in charge of a physician. The injection was made at 11 a.m. Two hours and a half after strong uterine contractions set in, and labor was completed in six hours. The child was born alive and vigorous; the mother had an uninterrupted recovery." This method was employed in the Burnside Lying-in Hospital, of Toronto, in one case, a report of which will appear hereafter.

JOHNS HOPKINS MEDICAL SCHOOL.

We learned from Professor Osler, during his recent visit in Toronto, that Johns Hopkins had received a reasonably handsome Christmas box in a gift of $300,000 from Miss Mary Garrett, to be expended in the organization and maintenance of a medical school. The trustees had some time ago decided that a fund of half a million dollars was required to complete their equipments in certain departments, and provide for proper maintenance, before their medical school could be established. Towards the close of 1892, they had on hand $200,000, and it was thought the school would have to be a thing of the somewhat distant future.

The generous donor has solved the difficulty in a somewhat simple but very effective style. Johns Hopkins has been struggling along with an endowment of only a limited number of millions, and had to proceed somewhat slowly. The laboratories of chemistry, physiology, and pathology have been thoroughly equipped for many years; the departments of medicine, surgery, and gynecology have been in complete working order since the opening of the hospital in 1889. They only wanted departments in anatomy and pharmacology, but could not seriously contemplate their establishment with only a small sum like $200,000 available. Miss Garrett's timely cheque will prevent them from feeling any longer the perils of poverty; and we hope that, in the near future, the long-expected Johns Hopkins medical school will be in active and successful operation.

THE McCULLY TRIAL AND THE MEDICAL DEFENCE ASSOCIATION.

We publish in this issue a letter from Dr. Coburn, containing a somewhat indignant protest against certain references in the *Ontario Medical Journal* to the Medical Defence Association, and especially Dr. Sangster. Without indulging in any criticism on the article referred to, we will leave the *Journal* to look after itself; but it is simple justice to affirm that Dr. Sangster is undoubtedly one of the ablest men in the Canadian profession. He is not only a capable and accomplished man, but he is also above even the suspicion of ever countenancing or encouraging charlatanry or quackery in any form.

We had supposed that his connection with the McCully trial was generally understood in Toronto. He did not know until about the close of the first day of the trial that he was expected to give evidence in favor of the defendant, McCully. He at once showed his opposition to the McCully methods in such terse and forcible English that he was promptly told that he would not be wanted, and that he might go home. We do not pretend to agree with Dr. Sangster in all subjects; but his ability, his position in the past as one of the leading educationists of the province, his age, and his honorable career as a physician, should command for him at all times the highest respect from all parties.

SMALLPOX IN TORONTO.

During the last four months there have been altogether seven cases of smallpox in Toronto and vicinity, all of which have been treated in the new Isolation Hospital without any fatality. It was feared that it would be impossible to prevent the disease from spreading, and certainly few thought that, under the circumstances, it was likely that it could be confined to such narrow limits. The Toronto Board of Health certainly showed commendable zeal in making such strenuous efforts to stamp out the loathsome disease, and the Medical Health Officer, Dr. Allen, deserves the thanks of the community for his very vigorous and successful work in the same direction.

Meetings of Medical Societies.

THE TORONTO CLINICAL SOCIETY.

The regular meeting of the Toronto Clinical Society was held December 14th, 1892; Dr. Temple, president, in the chair.

Dr. Burns was then called upon to read his clinical notes on a case of gall stones. (See page 13.)

Dr. Johnson: *Mr. Chairman and Gentlemen*,—Dr. Burns says that in a *post mortem* that was made on this man he found that the gall bladder was full of bile, and the stone was lodged in the cystic duct. My experience is that where you have gall stones, and a gall stone fixed in the cystic duct, you have a thin mucus present, and sometimes the gall bladder is enlarged, but the presence of bile in the gall bladder is very unusual. It has been estimated that one man out of fifty is the subject of gall stones. A great many have gall stones, and they are living and have no symptoms, and even when symptoms do occur they are of such a doubtful character that there is great difficulty in coming to a conclusion as to whether *the case is one of gall stones or one of indigestion.* Perhaps the symptoms that one would pay most attention to, and I look upon as being most characteristic, are (they were mentioned by Harley about three years ago), namely, shivering, vomiting, and excessive irritation of the skin, particularly of the skin of the abdomen; indigestion, more or less, frequently happens at first; pain over the region of the liver and gall bladder; vomiting, shivering, itching of the skin, enlargement of the liver, and, in some cases, jaundice, but no jaundice occurs unless a gall stone passes into the common duct. There is no jaundice when the stone passes into the cystic duct. The shivering is of a peculiar character; it is accompanied with cold, clammy skin, generally with a normal or very little higher temperature. The face is pallid, and the countenance anxious. In some cases we have severe pain, excessive depression, and hiccough. The hiccough is a symptom which has not been much dwelt upon, and is a very grave symptom.

I consider that there are two kinds of gall stones. The one form, light yellow, breaking with a peculiar fracture; the other form, like huckleberries, of a blue-black color. The latter are found in dissipated men, and I have seen them in seventy-five per cent. of the *post mortems* made in jails and places of that character.

Dr. Burns has spoken of primary cancer of the gall duct. I have not had the pleasure of seeing such a case, but, no doubt, any irritation from the gall stones will produce a change in the lining membrane, and may originate cancer.

The treatment adopted some years ago was used with considerable success where the stone was small, namely, the treatment of manual expulsion by external manipulation of the gall bladder for ten or fifteen minutes each day. It has been possible, in a great many instances, to expel from the bladder small gall stones by this method.

A treatment was suggested some years ago which, I think, is superior to morphia. When an attack comes on with severe pain, the usual treatment is to put the patient into a hot bath, to apply hot applications, and give morphia; but I believe belladonna, given in half-grain doses, is preferable to the morphine. Belladonna does not produce the bad after-effects, and it relieves the pain.

As to the prevention of gall stones, I do not believe that there is any known preventive. I have lately had two or three cases of gall stones that passed out of my hands to a gentleman attending a hospital in a neighboring city. In these cases he gave them very large doses of oil, and they came back well, much to my disappointment. I do not believe in the oil treatment, and have not used it of late years; but here were three cases that came under my notice, undoubted cases of gall stones, that went to this neighboring city, and came back cured, or they thought they were cured. Gall stones are very common in people who are great eaters and take little exercise.

I have only once seen rupture of the gall bladder. This was a case in which was found several gall stones, loose in the abdomen, at the *post mortem* examination. Perforation of the gall bladder, and escape of bile into the peritoneum, is not necessarily fatal.

DR. MACDONALD: I have had some unfortunate experience in the treatment of gall stones. The results by the oil treatment seem to be more fortunate. I use the expression "seem to be" because, in some hands, the patients have got much better. To be of any benefit, I think the oil must be given in large doses. One case I now have under treatment to whom I gave the oil in large quantities. She had the characteristic symptoms of pain, with chills and itchings of the skin. After having been under the olive oil treatment for a time, the attacks left her, and she remained free from them for some months; they are now, however, returning again, but are not as severe as they were before. Morphia, in this case, controlled the pain, but the intense general itching of the skin has been so severe that it has been more difficult to relieve than the pain, and I have, as yet, failed to find a remedy to control this condition.

I can hardly agree with Dr. Johnson in regard to his statement about a perforation of the gall bladder occurring without a fatal termination that is, a perforation into the abdominal cavity. My opinion is that such a perforation would be fatal, unless the patient be submitted to surgical interference.

DR. J. F. W. ROSS: I am fortunately able to show you a case of obstruction of the common duct by a stone, awaiting operation. My friend, Dr. Cotton, brought me a patient this afternoon, referred to him from the country. He had already formed his opinion, and wished to have it confirmed by some one else before advising operative procedure. The patient, here present, was taken a year ago with an attack of severe and sudden pain, lasting for two or three days. She then had no more trouble with the pain, except that she noticed an occasional soreness through the right shoulder. About three months ago she became jaundiced. Before the jaundice came on she noticed that the pain increased, but it was not nearly as severe as when it first set in, a year ago. The jaundice became deeper. For two months the motions have been light in color, and the urine has been stained with bile, so that it produced a yellow stain on the clothing. She has also suffered from itchiness of the skin. She noticed a lump on the side. On examination I found a dilated gall bladder, and a decided lump in the neighborhood of the common duct, feeling like an impaction of a stone in the duct. On a former occasion, I diagnosed such a case as one of malignant disease. The symptoms in this case point to an impaction of a stone in the common duct, with subsequent aggregation to its size. Regarding the formation of gall stones, I believe they are, in many respects, similar to stones that form in the kidney and pass into the urinary bladder. Gall stones are undoubtedly formed in the liver, and may then pass directly through the common duct into the duodenum; as stones pass from the kidney through the urinary bladder out through the urethra; or they may pass through the first portion of the common duct, and drop into the gall bladder and remain there, exactly as stones pass from the kidney into the urinary bladder and remain there, increasing in size, until they are subsequently removed by operation.

A few days ago I operated on a case. I saw the woman ten days previously, in consultation, during an attack of undoubted hepatic colic. She had in the morning three-quarters of a grain of morphia, and in the afternoon one-half a grain, but without gaining much relief. Under chloroform, we could feel a distended gall bladder. Taking this fact into consideration, the fact that the patient had previously been attacked nearly a hundred times, and the fact that she was now suffering with an undoubted attack, I advised operation, and a week after opened the abdomen, with the assistance of her physician, Dr. Cotton. The gall bladder was found distended, but on pressure the bile passed into the duodenum, and left the gall bladder collapsed. Such a case, I think, was one of true hepatic colic, in which the stones passed direct from the bile duct into the duodenum.

We have three distinct forms of this disease, giving rise to three distinct sets of symptoms. In the first, we have obstruction of the common duct; in the second, we have obstruction of the cystic duct; and in the third, we have obstruction of neither duct. In the first, the symptoms simulate, and are often taken for those due to malignant disease in the neighborhood. They are chronic jaundice, emaciation, clay-colored stools, and, perhaps, bile-stained urine. Those of the second variety, namely, closure of the cystic duct, whether permanent or temporary, are severe, suddenly recurring epigastric and hypochondriac pain, without jaundice, clay-colored stools, or bile-stained urine. Symptoms of the third group of cases are very indefinite. No symptoms may be present, or we may have well-defined and unaccounted for fever and chills without any severe attack of pain, even though the gall bladder suppurates or ulcerates. Such cases may end fatally by perforation. Now, regarding the medical treatment by olive oil or any other drugs, I would like to say here what I have written elsewhere, namely, that any one can drink olive oil and pass gall stones. A saponification of the oil takes place, and the gall stones thus passed, if heated on a piece of blotting paper, will leave nothing but a grease spot, and will be readily dissolved in ether.

The next case I have to show you is the converse of that related by my friend, Dr. Burns. This patient is a man who had five attacks of epigastric pain, but never, to his knowledge, passed a gall stone. He was referred to me by a friend, Dr. McMahon, who thought the case was one of gall stones. I examined him, and found a distended gall bladder. This could only be made out with the patient in one position. He was not jaundiced; but owing to the enlargement of the gall bladder, to his previous attacks of pain, and to the last continued attack of pain for two weeks, I diagnosed obstruction of the cystic duct and probable impaction of a stone.

At the operation I removed some forty-eight stones from the gall bladder, and one from the cystic duct, by direct incision through the duct wall. For three months he had an escape of bile through the wound, but is now, as you see, in first-class health, and, on looking at the wound, you will notice that it is completely healed, and its location is indicated by a small scar. He is in as good health as he ever was.

FIBROID TUMOUR REMOVED BY HYSTERECTOMY.

Dr. Atherton showed a specimen of fibroid tumor removed from a patient seen by him two years ago. It was then about the size of two ordinary oranges. He said: "I did not see the patient again until a week before operation. She was thirty-eight years of age, never had any menorrhagia, and was entirely free from symptoms of any kind except those produced by pressure. The reason why she wished to have an operation done was that the pain was becoming intolerable. She became more and more incapacitated from work, and therefore wished to have something done. I advised operation rather than carry out any other treatment. The case was not suitable for electricity, and we all know now that the treatment by electricity, at its best, is uncertain and too expensive for a poor person.

"On opening the abdominal cavity, I found the left ovary high up on the tumor; the right ovary down deep in the pelvis, so that it could not be reached without lifting out the tumor. The broad ligaments were ligatured, a rubber tube was passed around the base, and the tumor removed. A large stump was thus left, that was subsequently trimmed down by removing portions of it, and the balance of the stump was then stitched with catgut ligatures. The large vessels were ligatured separately by loosening the rubber clamp until the points of hemorrhage could be seen. The peritoneal surfaces were drawn together by silk ligatures, and these were brought out of the wound. The peritoneum was stitched around the stump so as to shut it off from the peritoneal cavity.

"The temperature rose to 100, and the pulse to 105 after operation. On the third morning the temperature was normal, and has been so since. At the neck of the uterus there were some small tumors that I enucleated before completing the closure of the stump."

SEPARATION OF THE RECTI MUSCLES.

Dr. Ross then presented a case of separation of the recti muscles. He said: "This patient, during her last pregnancy, became so wretched and miserable that Dr. Wright and I decided to bring on premature labor. With her other children she had been delivered with forceps, after great difficulty. The absence of the support of the recti prevented her from receiving the benefit of the expulsive pains. At this last labor, at the seventh month, it was found necessary to bind her up very tightly, and in this way she was delivered without instruments. She is now in a wretched condition, and is anxious that I should operate upon her. I fear, however, that by operation I should fail to accomplish my purpose. The stitches would be apt to pull out on account of the great tension to which they would be subjected.

"The recti muscles can be distinctly felt, widely separated, and when lying down they can be approximated, so that the intestines can be kept inside the muscular abdominal parieties. When she was pregnant, the veins of the uterus could be distinctly seen just beneath the skin covering the abdomen."

Dr. Temple thought the case might possibly be improved by operation.

Dr. MacFarlane said that he thought all of the abdominal muscles were atrophied.

Dr. Grasett thought that the recti muscles were not as widely separated as Dr. Ross thought they were ; but, of course, such a superficial examination of a patient was unsatisfactory. He would like to make a more thorough examination of the case before giving an opinion.

Dr. McFarlane's paper on a case of ununited fracture was postponed until the next meeting owing to the lateness of the hour.

THE CLINICAL SOCIETY OF MARYLAND.

The 472nd regular meeting was called to order by the vice-president, Dr. J. M. Hundley.

Dr. J. E. Michael read a paper entitled "Symphysiotomy ; a Successful Case ; a Suggestion." The ancient history of the operation was briefly referred to. Dr. Harris' paper, read before the last meeting of the American Gynecological Society, and published in the *American Journal of Obstetrics* in October, 1892, leaves little to be said as to the modern history of the operation. Dr. Harris' table, showing 44 operations from January, 1886, to July, 1892, by various operators, with one maternal death and three still-born children dying respectively at 12 and 72 hours, made a profound impression on the American profession. Dr. Charles Jewett, of Brooklyn, was the first American operator. He operated on September 30th, 1892. The child died in twenty-four hours from the effect of long-continued pressure. The recovery of the mother was uneventful. Prof. Hirst, of Philadelphia, operated October 2nd, 1892. Child and mother both well. Prof. Broomall operated October 7th, 1892. Mother and child saved. Dr. Michael operated at the Free Lying-in Hospital of the University of Maryland, October 24th, 1892. The patient was a rachitic negress, 4 ft. 6 in. high, 17 years old. Labor began on the morning of the 23rd. Dr. Michael saw the patient at 9 p.m. Os barely admitted two fingers. Head large, and no sign of engagement. Fœtal and maternal circulation good, and general condition of patient satisfactory. It was concluded to wait for greater dilatation, and operation was postponed till morning. Operation at 9.30 a.m. ; chloroform anæsthesia. Os still small ; most of the amniotic fluid had escaped, and the fœtus was suffering from pressure. Fœtal head obviously large, and no possibility of engagement. The bladder was evacuated, and then the os uteri dilated until four fingers would enter. The soft tissues were incised down to the symphysis, and the attachments of the recti were separated for half an inch on each side. The finger was passed down behind the symphysis until it projected below. The soft parts from the outside below were incised down to the finger-tips. An ordinary curved, probe-pointed bistoury was passed behind the joint and the cartilage severed. Delivery by Simpson's modification of Tarnier's forceps. · Pubic separation at its highest point was 2$\frac{7}{8}$ inches. Notwithstanding all precautions, the cervix was lacerated into the vaginal vault, the perinæum to the verge of the anus, and the anterior vaginal vault into the operation wound. The lacerations repaired at once with cat-gut. The wound of the symphysis was sewed with gut, the deeper stitching including the pubic ligaments. The surface was powdered with aristol and dressed with iodoform gauze. Broad, adhesive strips encircled the pelvis, and were covered by a firmly-applied bandage. The puerperium was uneventful. On the 9th day the patient was allowed to sit up in bed ; on the 11th day she sat up a little while in a chair ; on the 12th day could walk well and firmly. At the present time she walks over all the hospital, and as firmly as before the operation. The child died on the third day, the death being due to pressure which had occurred previously to the delivery. Dr. Michael, since the operation, has procured a Galbiati knife, which he believes would have been of great service in the operation.

Dr. Michael believes that symphysiotomy will not only to a large extent take the place of Cæsarean section and of craniotomy on the living child in cases of contracted pelves, but will be of service in the delivery of living children in cases of bad presentation, where formerly craniotomy has been resorted to. He has examined this matter experimentally with a fœtus of large size and a pelvis, with the soft parts attached, of comparatively small size. Placing the fœtal head into the pelvis, and producing a posterior rotation of the chin, delivery was attempted by forceps, but was found to be utterly impossible. Symphysiotomy was performed, and, after the pubic bones were separated 1$\frac{1}{2}$ inches, the head was easily flexed upon the trunk, the occiput brought under the pubic arch, and delivery by extension occurred in the usual way. Dr. Michael was so impressed with the feasibility of this operation that he intends to perform it on the first case of malposition of the head which presents itself to him. In cases where the occiput is posterior and the delivery of the child with forceps is accompanied with a great amount of violence, he thinks that this operation may be indicated. The number of operations which have been performed during the present year the world over, as collected by Dr. Harris, of Philadelphia, is 26. In this list there is no death of the mother. The statistics are remarkable both as to the safety of the woman and the healing of the wound

Dr. Hunter Robb asked Dr. Michael if in his case he has been able to suture the pubic ligaments as described by Leopold of Dresden in a case of symphysiotomy.

Dr. Michael said that the ligaments of the pubes offered a very considerable amount of tissue which might be caught with sutures. It would be unwise to depend upon the sutures, however they were passed. The pressure from the sides, as produced by adhesive plasters and a well-applied bandage over them, is so complete that you get a support which no suture of any kind could supply, and it would not make a very great amount of difference if the ligatures were not applied at all.

Dr. Robb congratulated Dr. Michael upon the success of this case. He thought that symphysiotomy would undoubtedly have a prominent position in obstetric surgery. On account of the simplicity of the operation, there will be great danger of its being performed more often than is necessary.

The pelvic measurements should be made as carefully as possible, with consultants of sufficient experience, before operation, just as is done when Cæsarean section is thought of. In some cases the operation is undoubtedly so clearly indicated that immediate action is justifiable, but these cases, he believed, form the large minority. Symphysiotomy does not provide for as many abnormal conditions as Cæsarean section ; for example, where one has to deal with cancerous growths of the cervix, pelvic exostosis, tumors of the uterus, and some deformities of the pelvic bones, it would be useless to do symphysiotomy.

He believed, however, that the operation would perhaps save the lives of many children. On the other hand, it may leave undesirable results in the mother.

Dr. William S. Gardner said that the profession was indebted to Dr. Michael for bringing this subject before them. This operation will almost entirely take the place of craniotomy on the child where the condition is that of contracted pelvis. Of course no one would dream of doing symphysiotomy for a cancerous cervix, or where the obstruction was due to any other condition in the pelvis than that of contraction. The operation will also cut in very largely upon the Cæsarean sections, especially those Cæsarean sections done in the United States. The fact is very well known that we have in the United States a very small number of extremely contracted pelves, and that a large percentage of the Cæsarean sections that have been done were upon women who had only what is known as the "relative indication." With reference to the suturing of the pelvic bones, Leopold remarked at the time he was stitching the wounds that he did not consider the stitching of very much value, and that he placed his main reliance upon the external bandage. The bandage which he used was made of heavy ducking, and was fastened by a buckle resembling an ordinary suspender buckle. The hips were padded with towels, and this bandage was drawn over them very tightly; in fact, so tightly that it produced sores on both the crests of the ilium in his first case. In Germany, and in most of the European countries, they have a large number of cases where the degree of contraction is so extreme that symphysiotomy is not a practical operation. The Galbiati knife is probably of great convenience to the operator.

(To be continued.)

Correspondence.

RE THE McCULLY TRIAL.

Editor of THE CANADIAN PRACTITIONER:

SIR,—I have the best of reasons for knowing that Dr. Sangster's attendance before the Discipline Committee of the Medical Council in the case of Dr. McCully was in obedience to a subpœna served upon him. His presence, therefore, at the discipline court was wholly unavoidable, and very much against his will. I also know that his testimony, had it been taken, would have been even more damaging to Dr. McCully than any given by those summoned upon the part of the Medical Council. These facts being well known to a part, at least, of the editorial management of the *Ontario Medical Journal*, I do not think that I use language any too strong when I say that no one, except a contemptible sneak, could have written or furnished the paragraph which appears on page 207 of the last number of that publication, insinuating, as it does, that Dr. Sangster, with "several members" of the Defence Association, might be regarded as defenders and apologists of Dr. McCully's *infamous* conduct. Evidently the paragraph was intended to be offensive, and to discredit the Medical Defence Association. There is more than a suspicion or conjecture that the article was penned by a servile suckling of the Medical Council. Yours,

W. COBURN.

Books and Pamphlets.

INTERNATIONAL CLINICS. A quarterly of clinical lectures on medicine, neurology, pediatrics, surgery, genito-urinary surgery, gynecology, ophthalmology, laryngology, otology, and dermatology. By professors and lecturers in the leading medical colleges of the United States, Great Britain, and Canada. Edited by John M. Keating, M.D. ; Judson Daland, M.D. ; J. Mitchell Bruce, M.D., F.R.C.P. ; and David W. Finlay, M.D., F.R.C.P. Published by The J. B. Lippincott Company. Philadelphia.

The volume under notice is No. 1 of the second series, and opens with a clinic by Dr. J. M. DaCosta on "The Pulmonary Complications of Influenza." This lecture treats of the many common lung complications that follow on influenza, and the author's methods of treatment. It is an admirable discourse, and worthy of the most careful attention. "Some Clinical Types of Cirrhosis of the Liver," by David Drummond. This lecture reviews the clinical aspects of *acute* alcoholic more than any other degree of cirrhosis, and possibly the title would be more explicit if it said some clinical aspects of acute alcoholic cirrhosis. Dr. McPhedran has a clinic on "Pernicious Anæmia," and relates three additional cases to the five already reported by him. The doctor draws especial attention to the condition of the urine in the disease, which he considers almost pathognomonic—"decided acidity, high color during exacerbations, and low specific gravity, especially in proportion to the color." Good lectures follow on "Graves' Disease," "The Diagnosis of Pulmonary Phthisis," etc., of which we can only make mention, owing to lack of space.

We cannot expect to find all the clinics complete or exhaustive. The one on "Hydrocele" is very brief and incomplete. But the volume is so full of good things that possibly we should omit adverse criticism. "Excision of the Breast," by H. Pearce Gould, F.R.C.S., is really a pleasure to read. He advocates a most thorough removal of all possibly implicated tissues—better remove too much than not enough—glands, muscle fascia, etc., and shows from his statistics that this thoroughness in no way increases the mortality. "Some Forms of Abdominal Tumors," by Albert Vander Veer, M.D., is another concise clinic on the subject in hand. These careful clinics enable us to make our diagnosis and prognosis more complete and accurate. "The Treatment of Acute Anterior Urethritis," by Edward Martin, A.M., M.D., contains some very salient suggestions in the treatment of gonorrhœa. His statistics are not strictly accurate, nor are his conclusions as to the source of usefulness between what he terms "snaps" and prostitutes agreeable to our experience. His direction on the use of the syringe is perfect and complete, and one of the most accurate we have seen in print.

This volume, as did its predecessors, reflects great credit on the editors; while the publishers' name, The J. B. Lippincott Company, is a guarantee that paper, binding, and typography are the best that can be desired.

MEDICAL JURISPRUDENCE AND TOXICOLOGY. By Prof. H. C. Chapman, of Jefferson Medical College, Philadelphia.

This little work embraces, as the author tells us in his preface, the course of lectures in these subjects delivered in Jefferson Medical College during the past year. His performance of the duties of coroner's physician in the city of Philadelphia, together with his experience as a teacher, has enabled him to present the subject in a clear and concise manner to the student and to the busy practitioner. The first twelve chapters are devoted to medical jurisprudence proper, and are well illustrated by plates, several of which are colored. Chapter thirteen treats of insanity, and, extensive as the subject is, the author has managed to touch on its most important points, and to condense into a small space as much as is possible of this branch. The remainder of the work is taken up with toxicology. The effect of poisons upon the human system is shown, and special attention paid to those poisons most commonly met with in medico-legal practice. The very complete index at the end of the book will be found of great assistance to its readers.

TEXT-BOOK OF OPHTHALMOLOGY. By Dr. Ernest Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized translation from the second enlarged and improved German edition by A. Duane, M.D., Assistant Surgeon, Ophthalmic and Aural Institute, New York, with numerous illustrations. New York: D. Appleton & Co., 1892.

It has never been our lot to read a book treating of diseases of the eye which, in 750 pages, has contained a greater amount of information. To all oculists the name of its author is a guarantee of method, of the practical and clear application of the latest researches, and of conclusions which can be thoroughly relied upon. It is a book not only very valuable to the oculist, but also to the general physician, by reason of its thorough grasp of the principles of ophthalmology. This opinion will be frankly admitted by any one who even cursorily reads it. It is a book which not only instructs, but also teaches how to think. Thus it is able to solve many of the diverse doubts of many minds by giving a clear exposition of the principles with clearly-described, practical applications. It is deserving of a wide circulation among the profession, for it is sure to give satisfaction. The index is full, and the illustrations are numerous.

OVER 1,000 PRESCRIPTIONS AND FAVORITE FORMULÆ FROM AUTHORS, PROFESSORS, AND PRACTISING PHYSICIANS. Cloth, 12mo., postpaid, $1.00. *The Illustrated Medical Journal Co.*, Detroit, Mich.

The formulæ contained in this volume are practical prescriptions for the various types of diseases. They are the favorite ones of the various authorities for the diseases indicated. The volume is interleaved, so that on the blank pages can be recorded any other prescriptions. The whole is comprised in a handy cloth-bound volume of nearly 300 pages, and will be mailed to any address upon receipt of its price by the above publishers.

RUPTURE OF THE AORTIC VALVES, WITH DEMONSTRATION OF SPECIMEN. Aneurisms of Right Auricular Appendix. By Ludvig Hektoen, M.D., Chicago. Reprinted from *The North American Practitioner.*

EMBOLISM OF THE LEFT CORONARY ARTERY: SUDDEN DEATH. By Ludvig Hektoen, M.D., Pathologist to the Cook County Hospital, Chicago. Reprinted from *The Medical News.*

Can Croupous Pneumonia be Aborted? By Thomas J. Mays, M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic and Visiting Physician to the Rush Hospital for Consumption. Reprinted from *The Medical News.*

Address of the Retiring President of "The Association of Medical Superintendents of American Institutions for the Insane." By Daniel Clark, M.D., Toronto, Ontario. Reprinted from *American Journal of Insanity*, Utica, N.Y.

Ideality of Medical Science: The Evil Events of the Profession and an Available Device for its Reformation. By Maurice J. Burstein, A.M., M.D., New York From *The Doctors' Weekly*, 96 Fulton Street, New York.

Are Inebriates Curable? By T. D. Crothers, M.D., Hartford, Conn. Read before the English Society for the Study of Inebriety, London, January 24th, 1892. Reprinted from the *New England Medical Monthly.*

A Contribution to the Study of Cystic Kidney. By Ludvig Hektoen, M.D. Reprinted from the *Chicago Medical Recorder.*

Tubercular Ostitis of Tarsus—Rheumatoidal Arthritis of Tarsus. By Augustus Wilson, M.D. Reprinted from the *American Lancet.*

Medical Items.

Dr. Osler, of Baltimore, spent a couple of days in Toronto during Christmas week.

Dr. A. B. Osborne was recently elected president of the Hamilton Medical Society.

Dr. Henry T. Byford has been elected to the chair of Gynecology in the College of Physicians and Surgeons, Chicago, in the place of Dr. A. Reeves Jackson, deceased.

At the recent elections in Toronto, Drs. Orr and Lynd were elected aldermen, coming first and second, respectively, on the list; and Dr. W. W. Ogden was re-elected a school trustee, coming out at the head of the poll.

Dr. W. S. Philp (McGill, '89), of Toronto, is spending the winter at Florida. He has recently been admitted as a member of the Florida Medical Association, after having passed the necessary examination.

Dr. W. Cuthbertson (Tor., '83), of Chicago, was in Toronto during Christmas week. He gives cheering reports of the success of the Canadian colony of physicians in that great city.

An Editor Honored.—Dr. W. C. Wile, editor *New England Medical Journal*, was elected Surgeon-General of the Grand Army of the Republic at the recent grand meeting in Washington. This is an enviable distinction, and an honor worthily bestowed.

At a meeting of the Board of Trustees held on Wednesday, November 30th, 1892, Dr. G. E. de Schweinitz was elected Clinical Professor of Ophthalmology in the Jefferson Medical College. At the time of his election, Dr. de Schweinitz was Professor of Ophthalmology in the Philadelphia Polyclinic and Lecturer on Medical Ophthalmoscopy in the University of Pennsylvania.

Dr. T. S. Cullen (Tor., '90) was in Toronto in the latter part of December. He is still at the Johns Hopkins Hospital in Baltimore, acting as assistant to Dr. Howard Kelly in gynecological work. He says that he and Dr. L. F. Barker are likely to remain in the Johns Hopkins for a considerable time. Dr. Barker is working at medicine and pathology.

Death from Cocaine.

Richardiere records an accidental death from this drug, and states that he has made autopsies in eleven cases in which death has resulted from the injection of cocaine. In his case death followed the injection of half an ounce of a one and one-half per cent. solution of cocaine into the tunica vaginalis testis, preparatory to the injection of iodine for the cure of hydrocele.

The solution of cocaine was withdrawn after less than a minute, and the iodine injected. In a little while the patient returned, complained of great weakness, had clonic and then tetanic convulsions, became comatose, and died with cardiac syncope.

At the autopsy there was found general congestion of the meninges and lungs, mitral insufficiency, and alcoholic lesions in the viscera. The tunica vaginalis did not communicate with the peritoneal cavity.—*Boston Med. and Surg. Jour.*

The New Operating Theatre of Roosevelt Hospital.

An interesting event, and a notable one in the history of Roosevelt Hospital, was the formal opening, on November 3rd, of the new William J. Syms operating theatre. This magnificent addition to the hospital, which is without doubt the most thoroughly-equipped structure of its kind in the world, owes its existence to Dr. Charles McBurney, of the surgical staff, whose representations to the late Mr. Syms secured the funds for its erection and maintenance. It is now about two years since the latter died, leaving in his will the sum of $350,000 for this purpose. Of this, $200,000 has been spent on the building, and the remaining $150,000 will be used as an endowment fund for its maintenance.—*The Medical Age.*

The Eleventh International Medical Congress.

Dr. A. Jacobi announces that the American sub-committee has the following membership: Drs. W. T. Briggs, of Nashville; H. P. Bowditch, of Boston; S. C. Busey, of Washington; C. Cushing, of San Francisco; N. S. Davis, of Chicago; A. Jacobi, o New York (chairman); Norman W. Dingsley, of New York; William Osler, of Baltimore; Wm. Pepper, of Philadelphia; F. Peyre Porcher, of Charleston; Charles A. L. Reed, of Cincinnati; D. B. St. John Roosa, of New York; A. J. C. Skene, of Brooklyn; and James Stewart, of Montreal. The secretary-general informs the committee that the French Railway Company has offered to the members of the congress a reduction of fifty per cent. on its fare.—*N. Y. Med. Jour.*

IMMUNITY TO CHOLERA CONFERRED THROUGH MILK.

M. Ketcher says Ehrlich has demonstrated the possibility of conferring immunity to the poison and infection of tetanus through the agency of the milk of a previously vaccinated animal, etc. We have injected a virulent culture of the comma bacillus into two goats, subcutaneously, intraperitoneally, and intravenously. 5 c.c. of the milk of one of the vaccinated goats protects a guinea-pig against a fatal dose of the comma bacillus, into whatever part the injection be made. The milk of an unvaccinated goat does not possess any immunizing power at all. The milk of a vaccinated goat injected into the peritoneum of a guinea-pig not only immunizes it against any future infection, but even cures an already existing attack of cholera.—*Prog. Médical.*

THE VIBRATORY CHAIR.

A vibratory chair, on the principle of that recommended by Charcot for the treatment of paralysis agitans, was invented and used by Abbe de Sainte-Pierre, during the latter part of the eighteenth century, for the cure of disease due to sedentary habits and occupations, and for the preservation of health.

It was the outcome of a remark by Chirac, first physician to the king, that one of the most efficacious remedies "against many of the evils attributable to melancholia, to gases, to bile, and to obstruction of the liver, spleen, and other abdominal glands, was a journey of several days' duration in a post-chaise that was rapidly drawn over the pavement."—*L'Intermediaire des Chercheurs et Curieux.*

THE USE OF BOILED WATER BY THE ANCIENTS.

Whatever theories the ancients may have held as to the corrective action of heat and other agents on noisome substances, it is certain that they made use of them with such corrective action in view. An illustration of this statement is to be found in a paragraph quoted by the *Deutsche Medizinal-Zeitung* from the *Allgemeine Wiener medicinische Zeitung*, in which allusion is made to the statement by Herodotus that in one of Cyrus' campaigns his table was supplied with water from the Choaspus, boiled and transported in silver vessels borne on four-wheeled mule-wagons. This was more than 550 years before the Christian era.—*N. Y. Med. Jour.*

POISONING BY ZINC SALTS.

MM. D'Amore and Falgone presented a note on poisoning by zinc salts to the *Société de Biologie*. In doses of 50 centigrammes by the mouth the oxide of zinc brought on vomiting, hemoglobinuria, and albuminuria. Animals generally die before the end of the second week with epithelial lesions, particularly marked in the kidney. The most interesting point is that glycosuria comes on during life, and the same epithelial changes are found in the pancreas as in the other abdominal organs.—*Prog. Médical.*

GRAFTING A PORTION OF THE SUPRARENAL IN THE FROG.

M. Abelous has successfully grafted portions of suprarenal capsule into the muscles of the ilio-coccygeal regions of eight out of thirty frogs. The grafts formed good adhesions in the course of twenty days. He was then able to remove the animal's own suprarenals without there following any of those fatal consequences that had been described by MM. Abelous and Langlois on a previous occasion.—*Prog. Médical.*

THE

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FOREIGN BODIES IN THE STOMACH AND TRACHEA.

REPORT OF A CASE

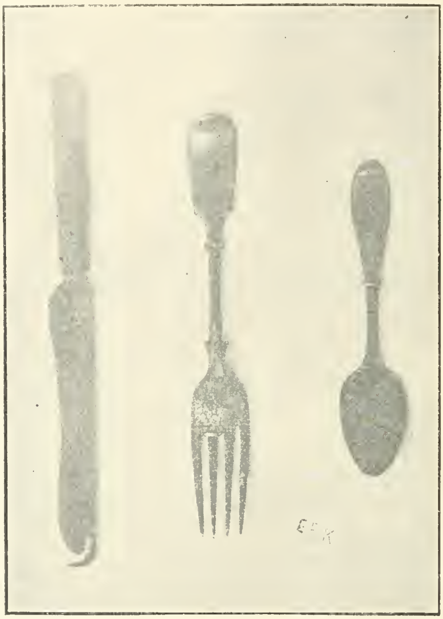
By JOHN CAVEN, M.D., AND THOMAS WEIR, M.D.

In the *British Medical Journal* of January 7th, 1893, Mr. Cant, of Lincoln, reports a successful gastrotomy performed upon a lunatic for the purpose of removing a razor, which he had swallowed, from his stomach. In the following case, unfortunately, operation was not permitted; but the history is of extreme interest, as illustrating what may be done in the way of swallowing foreign bodies, the tolerance of or insensitiveness to such bodies in the insane on the part of normally delicate and highly sensitive surfaces, and the curious pathological changes induced.

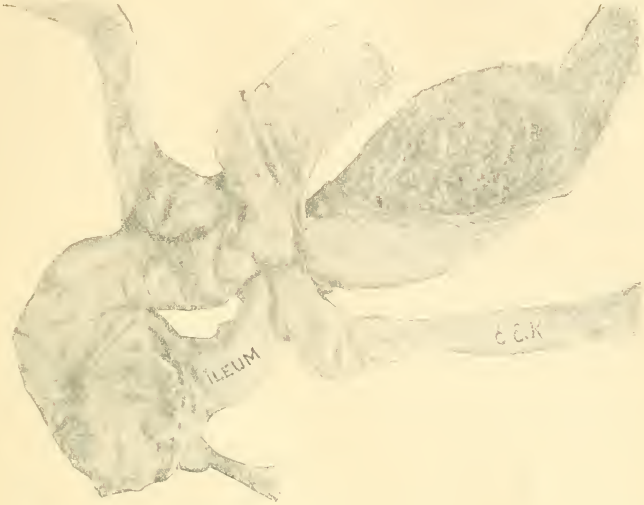
The patient, W.T., aged 23, had been a masturbator, and his insanity was perhaps due to this. He had been an inmate of Toronto Asylum for four years and three months, and was considered incurable. His habits, when eating, were such that it was found necessary to place him at a small table by himself, this being within six feet of that occupied by the attendants. The door leading from the dining-room into the ward of which it opened was locked, and the knives, forks, and spoons counted before patients were allowed out. The description of the articles used is as follows:

Knife, $9\frac{5}{16}$ inches long, silver-plated, blunt edge, round point; fork, $7\frac{3}{8}$ inches long, four-pronged, silver-plated; spoon, $5\frac{7}{8}$ inches long, silver-plated.

On the 27th of October last, when the attendants examined the tableware after dinner, the knife, fork, and spoon used by W.T. were not to be found. When questioned as to where they were, he answered that he had swallowed them. He was not believed, and all of the patients in the room were searched, but without result. The case was reported to the medical attendant that night; but he naturally declined to believe that the articles had been swallowed. The following morning, October 28th, the patient complained of nausea; and the doctor in charge, on examining him, was able to feel distinctly through the abdominal wall some hard foreign bodies which were apparently in the stomach. On manipulation, a distinct clinking noise could be heard. From this time on, until the last week of his life, the patient's condition was very much as it had been previously; and

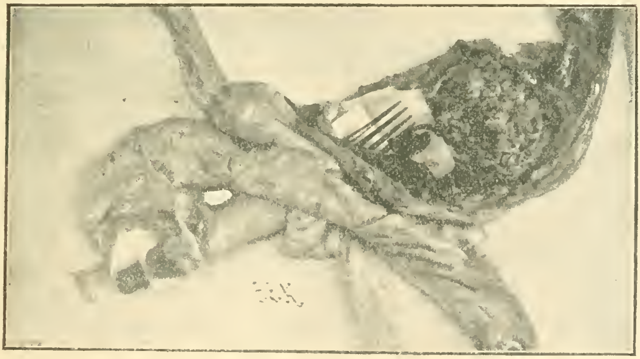


Photograph of the Knife, Fork, and Spoon
(Showing eroded point and edge of knife).



Photograph of the Stomach and Intestine

(Showing the adhesion formed between the Stomach, Ileum, and Transverse Colon).



Photograph same as above

(Showing the articles in the position in which they were found. The handles of knife and fork are in the Cæcum. The point of the bowl of the spoon is seen perforating the Duodenum).

had it not been for the fact that the articles in the stomach could be distinctly felt, it would have been hard to believe that they were there at all. Two or three times vomiting occurred; but as the patient had been troubled the same way for some time previous to the 27th of January, it can hardly be dwelt on as a symptom of any extra disturbance.

On the 12th of November slight abdominal distension was observed, and on the 13th the articles swallowed could not be felt, this being the first day since the swallowing that they were not easily found. On the 14th they were again perceptible: and during the next month (until December 14) the patient's health was apparently quite good, his abdomen showing slight passive distension on the 25th. On December 14th tenderness was complained of, and a gradual increasing distension of the abdomen, which was supposed to be partly due to fluid. Cramps in the right side were complained of on January 13th and 14th; on the 19th vomiting occurred, the rejected matter having a very foul smell. On the 26th of January the patient felt ill, and was put to bed; he vomited frequently, and the bowels failed to move. The pulse became extremely weak, and vomiting continued on the 27th. Death occurred at 1.15 p.m. on the 27th.

Post-mortem examination. An autopsy was held twenty-one hours after death. Inspection showed considerable emaciation; *rigor mortis* and *post mortem* staining fairly marked; abdomen greatly distended; columnella of nose separated from alæ for a distance of one-half inch back from anterior extremity (said to be the result of thrusting fingers into nostrils).

Section. Thorax: Pleuræ, old adhesions at apices on both sides; lungs tubercular, deposits in upper lobes on both sides, mainly miliary; a few small cavities. In the trachea, just at the bifurcation, was lodged a piece of glass—flat, four-sided, measuring $\frac{13}{16}$, $\frac{13}{16}$, $\frac{4}{16}$, and $\frac{15}{16}$ of an inch on the different sides. The edges of the glass were sharp, and it had evidently been lying in its present position for some time; the trachea being pouched out by pressure on the right side, and the mucous membrane scarred; heart small, 7½ ozs., brown atrophy; pericardium healthy. *Abdomen* contained about two gallons of sero-fibrinous fluid; stomach and intestines considerably distended with gas, and their serous coats covered in patches with fibrin. On manipulation of the stomach, it was found that it contained some foreign bodies, which, with knowledge of the previous history of the case, could be made out to be knife, fork, and spoon. On close examination, the stomach was found to be strongly adherent to the ileum and transverse colon, the surface embraced in the adhesions being about the size of a fifty-cent piece; the point at which the stomach was involved was about 1½ inches from the pylorus on the great curvature; ileum, four inches from ileo-cæcal valve; colon, nine inches from cæcum.

The handles of the knife and fork could be felt passing down through the ileum from the point of adhesion, and their extremities lodged in cæcum: the bowl of the spoon could be felt in the duodenum, concavity forward, and its tip had caused ulceration through the anterior wall of the duodenum, with a slit-like perforation into the peritoneal cavity, 3½ inches from the pylorus. The stomach and intestines were removed with as little disturbance of relations as possible, and photographs taken with the articles swallowed, in the position in which they were found at the autopsy. The point of the knife was engaged in the mucous membrane of the stomach a little below the lesser curve on the anterior wall, and had caused some ulceration there. The points of the fork were free. The handle of the spoon lay across the front of the fork, forming with it an angle of about 45 degrees. The stomach showed marked chronic inflammation —all coats being considerably thickened; the mucosa was much pigmented with black pigment. The mucous membrane of the duodenum was greatly thickened, and showed deep ulceration where the edge of the bowl of the spoon had rested, as well as ulceration with perforation at the point where the tip pressed; the perforation was ¼ inch long; black pigmentation was extreme. No opening was found in the colon where it was adherent to the stomach and ileum. The mucous membrane of the cæcum was slightly thickened, and showed an ulcerated spot ⅜ x ½ inch, where the knife handle rested. The œsophagus showed superficial ulceration of the mucosa for about one inch above its cardiac orifice. The measurements of the knife, fork, and spoon were found to be as follows: knife, 9¼ inches long; fork, 7⅜ inches; spoon, 5⅞ inches. The knife-blade had been considerably eroded by the gastric juice, but the fork and spoon showed no damage beyond the loss of the silver-plating.

There was nothing else specially noteworthy in connection with the abdominal viscera, excepting the presence of a Meckel's diverticulum about two and a half feet from the ileo-cæcal valve.

During the whole period of the man's life after he had swallowed the knife, fork, and spoon, he only twice—and that for a short time—complained of pain: and the only sign of peritonitis was abdominal distension.

The finding of the piece of glass in the trachea was as great a surprise to the patient's medical attendants as to others. There had been nothing at all during life to cause them to suspect any foreign body or any irritation whatever in the respiratory tract.

MALIGNANT DISEASE OF THE PYLORUS AND ITS SURGICAL TREATMENT.*

By Herbert A. Bruce, M.B.

I have selected this subject not only because it is of special interest to me—having had under observation several cases—and also of great importance owing to its frequent occurrence, but for the more potent reason that death, which under existing circumstances must supervene in a short time, may be postponed, and suffering alleviated, and possibly in early cases a positive cure effected, by prompt surgical interference. Coates says that the stomach is the most frequent seat of cancer, and Virchow has estimated that 1.9 per cent. of deaths from all causes are due to this disease. Having recently seen a case of malignant disease of the pylorus operated upon, and as it exemplifies the beneficial result of operation—although in this case the growth was not removed, but simple gastro-enterostomy done—I shall give a brief *résumé* of his clinical history.

Mr. F.D.P., æt. 36. Occupation, farmer.

Previous history. Was always healthy up to three years ago, excepting that he never enjoyed a good appetite. Commenced drinking tea at the age of twenty-one, and has always taken it very hot—could not get it too hot. Has always lived on plain food—coarse bread and pork forming his chief diet.

Present attack. Patient's present illness began three years ago, when after an overheating he noticed a sharp pain in the epigastric region, which was followed in a few minutes by vomiting of a material which he describes as similar in appearance to coffee-grounds. The first time he went to stool after this, he noticed that the fæces were of a blackish color. During the next few days any ingestion of food was followed by vomiting. Was treated for congestion of the liver, and vomiting relieved for six months, but was not free from pain, which would last three or four hours after eating, especially if potatoes or other solid food had been taken. His appetite was poor, and after this period he vomited one evening a material of coffee-ground appearance; fæces following were black. Was treated for dyspepsia for the next three months, and he felt as well as ever, except for weakness. Following this vomiting returned, three or four hours after meals, and this condition has remained ever since—on an average twice a week, at irregular intervals. Vomit has coffee-ground character mentioned above. Pain has been constant. Has lost weight during the last three years, but especially during the last eight months. Bowels only move once every twelve or fifteen days, and then usually as result of enema. He says he has eaten potatoes, and fifteen days after vomit has contained potatoes, although he has taken none in the meantime. Has lost forty or fifty pounds in the last year. He used to weigh 206 pounds, but now only weighs 118 pounds.

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*Read before the Toronto University Medical Society.

Present condition, Oct. 15th, 1891. He has a sallow complexion, is greatly emaciated, is gradually getting weaker, and his face presents an anxious appearance. He has almost constant pain in the epigastrium, somewhat aggravated by eating, but by no means limited to the periods at which the stomach contains food. Has tenderness on pressure over the epigastrium. Ten ounces oil were given him, and in three hours only seven ounces were recovered by the stomach pump. Salol was given, and in three quarters of an hour salicyluric acid was found in the urine. Lower border of stomach extends a little below the level of umbilicus. Hydrochloric acid absent from gastric contents; ascertained by testing with methyl violet.

This case presents all the phenomena usually observed in a well-marked case of malignant disease of the pylorus, viz.:

(1) Loss of appetite.

(2) Pain in the epigastrium, more or less constant.

(3) Vomiting—three or four hours after eating, and vomit sometimes having coffee-ground appearance.

(4) Tenderness on pressure over epigastrium.

(5) Absence of hydrochloric acid from gastric contents.

(6) Cachexia.

(7) Dilatation of the stomach.

One sign that could not be made out was the presence of a tumor. The reason for this will be explained further on.

Now let us consider the diagnostic value of some of these signs and symptoms.

First, as to pain. In cancer of the stomach this is somewhat characteristic, and may be dull, aching, gnawing, or lancinating, occurring more or less constantly, and not being specially related to the ingestion of food, although it is usually increased by eating. The pain in this case is of the above character.

Secondly, vomiting. This is characteristic of pyloric obstruction, in that it occurs three or four hours after eating, at a time when the contents of the stomach should be passed on into the duodenum. Then the vomit sometimes contains considerable blood, giving it the coffee-ground appearance, which points to malignant disease of the stomach.

Thirdly, absence of hydrochloric acid from gastric contents. Regarding the diagnostic significance of absence of hydrochloric acid from the gastric juice, Riegel and other observers say that its constant presence is the strongest proof of the absence of cancer, but its absence not a positive evidence of the existence of cancer, as in a few cases hydrochloric acid has been absent and yet no cancer present, and also some cases in which hydrochloric acid was present, although there existed undoubted cancer.

Dr. Hüfler made a number of examinations of the gastric juice of patients who were suffering from different cardiac lesions, and found hydrochloric acid absent in all but one. In phthisical patients, it is sometimes absent. In thirteen cases of carcinoma of the stomach reported by Dr. Mears, of Philadelphia, hydrochloric acid was found in six, and not detected in seven cases. It appears to me that if we consider the cause of the disappearance of hydrochloric acid from gastric juice in cases of carcinoma of the stomach, we shall find an explanation for its presence in some cases. Rosenheim examined repeatedly the contents of the stomachs of sixteen patients with this disease, and hydrochloric acid was found wanting in fourteen. In all of these autopsy showed well-marked atrophy of the gastric mucous membrane. In the other two cases in which hydrochloric acid was present during life, after death the mucous membrane, except for the cancer, was found normal. We may therefore conclude that the absence of hydrochloric acid is due, not to the cancer, but to the nearly constant concomitant atrophy, and that in those cases in which hydrochloric acid is present the mucous membrane is not atrophied to any great extent.

It might be in place here to consider the most accurate means of determining the presence of free hydrochloric acid in gastric juice. Regarding this there is considerable disagreement among authorities, but it would seem that Günzburg's phloroglucin-vanillin test is generally considered as the most satisfactory. This has the following formulæ:

Phloroglucin, grs. xxx.; vanillin, grs. xv.; abs. alcohol. ℥j. M.

One minim of this solution in the presence of a trace of concentrated hydrochloric acid takes on immediately a bright-red hue, while at the same time beautiful red crystals are deposited.

Organic acids—acetic and lactic—give only negative results in the presence of this reagent; others use tropeolin, Congo red, methyl violet. The latter is very commonly used, and although some doubt its reliability it is convenient, and seems to give sufficiently accurate results for practical purposes.

Fourthly, cachexia. This is well marked in this case, as indicated by early and rapid emaciation, progressive debility, a dirty sallow complexion, and an anxious countenance.

Fifthly, dilatation of the stomach or gastrectasia. This is present, and invariably occurs if the disease of the plyorus is sufficient to cause any considerable obstruction to the passage of food through it. At first the obstruction causes compensatory hypertrophy of the gastric muscles; but after a time, as the disease extends and the obstruction becomes greater, we have hypertrophic dilatation, in which the dilatation eventually preponderates. The error is sometimes committed of considering stomachs of unusually large size, as shown by physical examination, to be dilated. The weight of authority is, however, in favor of only regarding those stomachs as dilated which, independently of their capacity, are inadequate to the performance of their digestive and propulsive functions. Even when the stomach reaches below the umbilicus, it is not necessarily dilated. Perfectly normal stomachs which are of a looped shape, or which occupy a vertical position, such as exists in fœtal life, may extend considerably below the navel. Austin Flint, sr., states that tight-lacing may depress the stomach to a notable extent. The size of a dilated stomach may, on the one hand, be so small that the clinical test of insufficiency is necessary to render the diagnosis at all certain; or, on the other hand, may be such that the stomach contains gallons of liquid, occupying nearly the whole abdomen, and reaching nearly or quite to the iliac bone. Cases have been reported in which the dilated organ descended even into the true pelvis, or into the sac of a complete inguinal hernia. In the wall of a dilated stomach there is fatty degeneration of the muscle fibres, and a pathological condition described by Maier as colloid degeneration of these fibres is not very rare.

Sixthly, the presence of a tumor. A gastric tumor has been estimated to be present in 80 per cent. of cases of carcinoma of the stomach. But inability to palpate a tumor is by no means evidence that it is not there, for under certain conditions no tumor can be felt. Some of these are: (1) The pylorus being retained in its normal position by adhesions. (2) The lesser omentum being thickened and involved in the growth. (3) Twisting of the stomach on its own axis, as has occurred in this case, the pylorus with the growth having been turned behind the rest of the stomach. (4) The tumor being overridden by a distended colon; this, however, would not be permanent, and the tumor would at some time be felt.

The tumor in the case of cancerous disease of the pylorus will be felt a little above and to the right of the umbilicus, considerably lower than the position of the healthy pylorus, which, indeed, lies so completely under cover of the liver as to be inaccessible to palpation.

Regarding the etiology of cancer very many theories have been advanced, and, although the theory of irritation seems to be out of fashion, it seems to me not only possible, but very probable—especially as I have heard so good an authority as Dr. J. E. Graham express the opinion—that the irritation of coarse food bears some causal relationship to the development of gastric cancer. In the four or five cases that I have seen, they have occurred in farmers who ate large quantities of pork and coarse bread, and in addition to this, in the case of the patient whose history I have given, the habit of drinking very hot tea.

Virchow says that carcinoma preferably arise at points exposed to frequent irritation, and adduced the fact that the orifices of the stomach which are subjected to the greatest amount of friction are most frequently attacked in support of his doctrine.

Steven reports a case of diffuse columnar-celled epithelioma of the stomach occurring in a stonemason who was in the habit of pressing the blunt end of an iron chisel, while working all day, heavily against his left hypochondriac region. Flatow has described the development of gastric cancer in the cicatrix of a round ulcer, a part which would likely be more exposed to irritation than the surrounding tissue. If an epithelioma can develop on the lip as a result of irritation—which, of course, is questioned by a great many—then it appears to me to be only reasonable to presume that the delicate epithelium of the stomach, when subjected to the irritation of coarse food, may take on abnormal growth and development resulting in the production of cancer. It occurs chiefly in persons over forty years of age, but it is occasionally found in much younger subjects, as shown by Koster, who demonstrated at a *post mortem* the existence of carcinoma of the stomach in a girl of seventeen.

NOW, BRIEFLY, THE PATHOLOGY.

There are five forms of carcinoma described as occurring here. (1) Medullary. (2) Adenoma destruens, or malignant adenoma, or adeno-carcinoma. (3) Carcinoma fibrosum, or scirrhus. (4) Colloid or gelatinous. (5) Squamous epithelial cancer. This occurs at the cardiac end, and in the majority of cases, if not all, originates in the lower end of the œsophagus.

Scirrhus has heretofore been considered by the mass of authority as the commonest form, but Ziegler, in his last German work, states that the most common form is medullary, and that what is called scirrhus is very probably only an induration of the walls of thestomach, partly cancerous,partly fibrous, which has formed secondarily after breaking down of soft cancer.

Now let us consider the differential diagnosis. This involves the exclusion of other gastric diseases, and of tumors not connected with the stomach.

(1) Gastric ulcer.

This is readily diagnosed from cancer by (*a*) the character of the pain, commencing on the ingestion of food and lasting until emesis occurs; (*b*) the age of the patient, usually occurring between fifteen and twenty-five, and in females, whereas cancer rarely occurs before thirty-five, and most commonly in males. There are other points of difference which time will not permit me to mention.

(2) Simple chronic gastritis.

(3) Chronic intestinal gastritis.

(4) Gastrectasia from non-malignant pyloric stenosis.

(5) Gastralgia.

(6) Other gastric neoplasms. These are so rare that they are clinical curiosities, and need not be discussed. The above conditions may be easily diagnosed from cancer by careful attention to the distinguishing symptoms, a discussion of which I cannot enter upon here. The tumors of other organs most likely to be mistaken for gastric cancer are those of the liver, the pancreas, the peritoneum, the aorta, the intestine, the retroperitoneal lymphatic glands, and the omentum. The kidney and spleen may also be included.

It must also be diagnosed from cicatricial contraction of a duodenal ulcer leading to stenosis of the duodenum, andconsequent dilatation of the stomach. Dr. McPhedran tells me of a case of this kind which came under his notice, and which had been diagnosed cancer of the pylorus.

Mr. W., æt. 45. Suffered from vomiting an hour or two after eating for about a year. Had slight dilatation of the stomach. Had considerable pain in the gastric region. Finally died, and autopsy revealed a contraction of the second part of the duodenum due to cicatrization of an ulcer, and leaving a lumen not large enough to admit the end of a lead pencil.

A curious case of a pseudo-gastrolith which was mistaken for cancer is reported by Koayker, of Groningen. A druggist, æt. 35, had a circumscribed tumor in the epigastric region, the position of which varied on respiration, and which was tender on pressure. Medicines had no permanent effect on it. Appetite very good, bowels regular; vomiting of a small quantity of fluid, containing mucus and bile, but always free from hydrochloric acid, occasionally took place. Nausea was constant, and it was said that hæmatemesis had occurred, but this was not actually observed. Gradual emaciation followed with cachexia, and indolent swelling of the left supra-clavicular and axillary glands was noticed. The patient was examined under an anæsthetic, and stomach washed out. The diagnosis was made as probable carcinoma of the stomach. The case ended fatally, and autopsy showed that the stomach, which was of normal size, contained a concretion having the outline of the organ, and almost filling it. Weight of tumor, twenty-eight ounces. It had a strong fæcal odor, but contained no skatol. No nucleus present. It was identical in constitution with the food balls of ruminants.

Now let us proceed to the surgical treatment of malignant disease of the pylorus.

The possibility of removing the pylorus for cancer was first suggested by Billroth in 1877. The first operation on the human subject was performed by Péan in 1879, when he removed the pylorus; the patient, however, only survived five days. In 1880 Billroth performed the first successful operation. The patient was a woman aged forty-three. She made a splendid recovery, and ate a mutton cutlet with the best appetite on the twentieth day after the operation. The patient, however, died four months after the operation from cancer of the peritoneum and retro-peritoneal lymphatic glands.

The pylorus may be removed, or a communication may be established between the stomach and jejunum, thereby short-circuiting the passage of food and preventing it passing over and irritating the diseased surface; or these two operations may be combined. Thus we may do (1) pylorectomy, (2) gastro-enterostomy, (3) combined pylorectomy and gastro-enterostomy.

Let us first consider pylorectomy. This operation is practicable only in those cases in which the pylorus has not formed such adhesions to the surrounding parts as to prevent its being drawn completely from the wound. The rate of mortality has been very high from this operation, which is probably due to the fact that as patients rarely come under the care of the surgeon until their strength is much reduced, and the long time required in employing the complicated system of suturing, the shock alone, in many instances, has been responsible for the fatal result. But now the last difficulty spoken of can be overcome by using Senn's decalcified bone plates, and the time of operation reduced from three-quarters to half an hour. Another cause of failure can be traced to the very limited length of the duodenum, which is covered by peritoneum, so that if the disease is at all extensive it is nearly impossible to leave a sufficiently long piece of duodenum so covered to unite to the stomach. In any case there must be a very considerable drag and fear of leakage.

Gastro-enterostomy: This operation was first performed by Wolfler. The method suggested by him was attended with such a high mortality, owing to the length of time occupied in performing it, that surgeons were slow in recommending patients to submit to it, and it was not until Senn had placed before the profession the results of his experiments that the operation met with much favor. Dr. J. B. Jessett, surgeon to the Cancer Hospital, Brompton, has performed it five times, with three successes. It has also been performed by a number of others. This was the operation done on the man whose history has been given above by Dr. L. McFarlane, assisted by Dr. James F. W. Ross, December, 1891. The abdomen was opened by an incision in the median line between the ensiform cartilage and the umbilicus. On passing the hand into the abdomen, the pylorus was found twisted back behind the stomach, and containing a hard mass the size of a small orange. This explains why no tumor could be felt on palpation. The stomach and upper part of the jejunum were drawn up through the wound, and the jejunum approximated to the anterior surface of the stomach by

Senn's decalcified bone plates, an opening having been made through. The technique of the operation is as follows:

The upper part of the jejeunum is laid transversely on the anterior wall of the stomach, and its posterior part is united to the stomach by sutures which pass through the serous and muscular coats; then an opening is made in the stomach 1 or 1¼ inches in length, and a similar opening in a corresponding part of the intestine. Then one of the bone plates is passed into the stomach, and the lateral sutures made to penetrate the wall close to the edge of the wound. The other plate is passed into the intestine, and the same care exercised about passing lateral sutures, so as to have them come through the wall close to the cut edge. The object of this is to prevent spontaneous closure of the opening. The end sutures are allowed to come through the extremities of the wound without penetrating the wall of the stomach or intestine. Then the posterior two of the lateral sutures are tied next the two sutures of one end, then the anterior pair of lateral, then the sutures of the other end. Now, continue the sutures, which were first applied to the posterior part around the plates, being very careful to cover in and hide completely the four anchor sutures; and although the threads must enter the muscular coat to avoid danger of tearing out, yet the utmost caution must be exercised never to penetrate the lumen of the gut or stomach. In passing this suture around the plates, the continuous or interrupted style of sutures may be used. Of the interrupted, Halsted's square stitch is unquestionably the best, giving better coaptation, and being more quickly applied than the Lembert suture.

Dr. Dawbarn prefers the continuous suture, and applies two rows, which he says he can apply nearly equally quickly as the Halsted, three stitches to the inch. He uses the basting stitch, which is passed parallel to the line of union, and there is less danger of sewing too deeply than in any of the interrupted sutures. The second row of this continuous suture should be so applied that where in the first row it went above the line of union, it now goes below. The second row should conceal the first.

I would like here to present a specimen which I removed from a dog a short time ago, four months subsequent to an intestinal anastomosis which I had performed on him. The opening between the two portions of intestine is perfectly round and smooth, and larger than the lumen of the gut. This specimen shows an invaginated portion about 1½ inches in length, whereas originally only ¼ of an inch was turned in, and is, I presume, due to the part invaginated irritating the mucous membrane, and so stimulating peristalsis that invagination proceeded until prevented by the adhesions which had taken place around. Had this continued until it passed the artificial opening, it would have been sufficient cause for obstruction. Turnip plates were used, and by having a ring of thick catgut to apply to one side of the turnip, with four threads of lighter catgut attached, which were passed through the plate, there was no trouble with threads tearing through. There is another advantage in the ring of catgut, as it swells considerably in any watery solution—such as the semi-liquid fæces; this will tighten the sutures and tend to make them more secure, and the approximation of the two serous surfaces more complete. Raw vegetable tissue was first used and recommended for plates to be used in intestinal anastomosis by Dr. R. M. Dawbarn, of New York, June, 1891. He preferred raw potato to any other kind of raw vegetable. The advantage of these vegetable plates will be readily seen, as the material for their production—*e.g.*, potato, turnip, etc.—can be procured anywhere without delay and without cost. I do not see why a turnip plate—which appears to me to be better than potato on account of its more fibrous structure, and consequently tougher character—would not do for gastro-enterostomy. If a plate is only required to facilitate by its presence the speedy application of sutures, and to keep quiet and in contact the serous surfaces for a few hours until primary agglutination has occurred, then the turnip plate will fill the bill. To aid perfect quietude of the parts during this period, hypodermic injections of morphia should be used. The serous surfaces to be coapted should be well scraped with a knife, and a rapid plastic exudation will be thrown out. Dr. Dawbarn, in experimenting on dogs, always previously injects hypodermically morphine, as it diminishes the amount of anæsthetic required. This acts beneficially in another way, for I have noticed in the five or six cases that I have seen that emesis occurs almost immediately after the injection, so that in gastro-enterostomy you will get rid of the contents of the stomach, which might interfere somewhat with the operation, and this will also prevent sickness during the administration of the anæsthetic, and diminish it subsequently. By injecting one grain of morphine into a small dog, I kept him anæsthetized for nearly two hours with one ounce of the A.C.E. mixture.

Dr. G. A. Peters uses pieces of white flannel for keeping the intestines warm while out of the abdomen, and they appear to be a decided improvement on sponges, retaining the heat much longer, and being very much cheaper.

Dr. Jessett says that in catching up a loop of intestine, the usual direction given to turn the great omentum over to the left is wrong. If this is turned up and over to the right, and the index finger passed down to the right of the spinal column along the lower side of the transverse mesocolon, the notch in the peritoneum where the duodenum ends and jejunum commences will be readily felt, and it is easy to catch up a loop of jejunum quite at its commencement. He says that the importance of attaching the small intestine as near to its origin as possible cannot be overestimated, and the practice of catching up the first portion of the small intestine that presents itself is highly to be condemned, as a portion of the small intestine within a few feet of the ileo-cæcal valve may be attached to the stomach, and the patient die of marasmus.

A danger that has been experienced in at least one case of gastro-enterostomy reported is the closure of the opening artificially made between stomach and intestine. To avoid this, it is recommended that the opening be made sufficiently large (1¼ inch), and that the lateral sutures be passed quite closely to the cut edges. The opening may be closed by spread of the disease over it. In this case, and where the opening has closed spontaneously or by cicatricial contraction, and the stomach is involved to a large extent by the disease, and it would be impossible or unwise to do another gastro-enterostomy, life may be prolonged and some relief given by doing jejunostomy. I shall briefly describe a novel method of doing this operation, introduced and practised by Dr. Jessett.

An incision is made in the median line two or three inches long, and a loop of intestine is drawn through the wound. A long straight needle, armed with silkworm gut or chromicized catgut, is passed beneath the serous and muscular coats of the viscus in a longitudinal direction for about 1½ inches on one side; another suture is passed in a similar manner, parallel to the first, and about one inch from it; two other sutures are then passed from the points of exit of the longitudinal sutures on one side, and brought out at the points of exit of the opposite longitudinal suture, thus forming a parallelogram between the four sutures. The sutures armed with needles are next passed through the whole abdominal parietes about half an inch from the cut edges, and passed through a bone or other plate with an opening in the centre, and held in position by clamp forceps, while a couple of sutures are inserted at each end of the incision through all the parietes and tied. A small portion of the viscus is next caught up by passing a pair of clamp forceps through the opening in the plate, and drawn through it; a hare-lip pin is then passed through the coats of the intestine, which is thus fixed. In the course of two or three days, the gut is readily opened by cutting down on the pin. It is well to pass a suture through the cut edges of the gut on each side, and fasten it to one of the sutures crossing the plate. A winged soft india-rubber catheter is passed through the opening into the gut, and the patient fed through it. Dr. Jessett has performed this operation on three patients, with good results, the opening being small, and there being little or no leakage of intestinal fluid.

If the disease is very extensive and a large part of the stomach wall is affected, or if it has fixed the pylorus to the neighboring parts, or if the glands behind the lesser curvature are involved, it is useless to attempt to remove the growth, but life may be prolonged and suffering alleviated by gastro-enterostomy.

Billroth reported twenty-eight cases of gastro-enterostomy in twelve years, thirteen men and fifteen women, aged from twenty-seven to fifty-eight. Fourteen died, and fourteen recovered. Nine deaths were from collapse. It was of physiological interest to note that the shortened stay of food in the stomach entailed by gastro-enterostomy did not interfere with digestion. Let us compare this with Billroth's report during the same period of twenty-nine cases of malignant disease of the pylorus in which resection of the pylorus was performed—fifteen died; death from recurrence in from one and a half to eleven years.

Since the introduction of Senn's bone plates, or some of their modifications, whereby much time in suturing is saved, the mortality in eleven cases of gastro-enterostomy has been a little over nine per cent; so that now the operation may be done with a reasonable expectation of a favorable issue.

However, in those cases in which the new growth is confined, for the most part, to the pylorus, and the lymphatic glands are not involved, and there are no adhesions, the proper thing to do is to combine pylorectomy with gastro-enterostomy. This not only prolongs the patient's life, and diminishes his suffering, but it gives him freedom from that constant gnawing or lancinating pain incident to the presence of the cancerous growth, for a longer or shorter period depending upon the rapidity or slowness of recurrence of the disease. This combined operation has been done by Billroth and W. T. Bull, of New York. It is performed by excising the pylorus and closing the divided ends of the stomach and duodenum, and restoring the continuity of the canal by uniting the jejunum with the anterior part of the stomach by means of approximation discs—Senn's bone plates, Abbe's rings, Robinson's rawhide plates, Brokaw's segmented rubber rings, Matas' solid catgut ring, Davis' solid catgut plate, Dawbarn's vegetable plate—thus combining pylorectomy with gastro-enterostomy. Both operations thus performed were very successful, and this operation appears to me to be preferable to performing pylorectomy alone, as one can remove a much larger portion of the stomach without extra risk and ensure being perfectly clear of the disease, and the greater ease with which the jejunum can be approximated to the anterior wall of the stomach.

I omitted giving the patient's condition immediately following the operation. He suffered very little from shock, and was fed by nutrient enemata until the second day after the operation, when he was given a little champagne by the mouth. This caused symptoms of vomiting, and a hypodermic injection of morphia, one-half grain, was given, which relieved him. On the third day he took a little milk and lime water by the mouth, and retained it. From this he went to peptonized milk, pure milk, custards, oyster soup, chicken broth, etc., until in two weeks he was able to take an ordinary diet of meat, potatoes, bread, etc., with only an occasional vomit. Soon after this he left the hospital and returned home, enjoying splendid health, having very little pain in the stomach, and eating well and gaining in flesh. By February 18th he had gained twenty-seven pounds since the operation. He went on without much change until the end of February, when vomiting returned, and gradually all former symptoms came back, and he died in the first part of June, 1892. *Post-mortem* examination showed complete closure of the artificial opening between stomach and jejunum, a firm cicatrix being left. The growth had increased very little in size, and a lead pencil could be passed through the pylorus. It seems to me that if instead of simply making a slit in the stomach and intestine before passing in the plates an elliptical piece was removed from both, there would be much less likelihood of having this spontaneous closure.

A very strange thing happened in this case which I have not seen described in any work on the subject, viz., the return of hydrochloric acid to the gastric juice four days after the operation. This would seem to militate against the theory which ascribes absence of hydrochloric acid to atrophy of the gastric mucous membrane, for four days would seem a very short time for the gastric mucous membrane to return to its normal condition.

THE PREVENTION OF MASTITIS.*

By A. H. Wright, B.A., M.D.,
Professor of Obstetrics, University of Toronto, etc.

Abscess of the breast in the puerperal period has always appeared to me a thing that brings a certain amount of disgrace on the accoucheur or the nurse—a thing that ought to be avoided. The ordinary text-books are scarcely as explicit as they might be in giving directions as to treatment or methods of prevention. I will quote from one of the most recent text-books, the author being G. Ernest Herman, M.B., London, F.R.C.P., one of the most distinguished among British obstetricians :

"PAINFUL FULLNESS OF BREASTS.—Sometimes—especially if the nipples are sore, or the child feeble—more milk is produced than the child draws out ; the breasts become very full, swollen, knotted, hard, and tender ; and this condition may make the patient feverish, and, if not relieved, may go on to abscess. If the breasts are so full as to be uncomfortable, they should be emptied by a breast pump or a soda-water bottle. If the child was stillborn, or has died, or the mother is not going to suckle her child, this may be repeated as often as necessary, and will soon cease to be required ; for if the breasts are deprived of the stimulus of a sucking baby, they soon leave off producing milk. It would often be very desirable, in the case of babies too feeble to suck, or nipples too badly-shaped for the baby to grasp them, to draw the milk from the breast with a pump, and give it to the child with a spoon ; but, as a rule, this cannot be done, for the breast soon ceases to produce milk when the child is not applied to it. You need not, therefore, prescribe any medicines to drive away the milk. See that the breasts are made comfortable, and the milk will go away if the mother does not suckle."

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* Abstract of remarks at a meeting of the Toronto Medical Society.

While I entertain the highest respect for Dr. Herman, I fear that the physician who treats "painful fullness of the breasts" on the lines above indicated will have rather a large proportion of mammary abscesses in his obstetric practice. We are told that statistics show that about six per cent. of nursing women are afflicted with mastitis. Surely the time has arrived when such statistics should be considered ancient history. I sincerely hope that there is not now a maternity hospital in the world which shows any such disgraceful record as this. I am told by Miss MacKellar, the matron of the Burnside Lying-in Hospital, in connection with the General Hospital of Toronto, that there has not been a single case of serious mastitis—certainly not a case of mammary abscess—among the last 500 patients confined in that institution. As a member of the staff, I have watched pretty carefully the results in the Burnside for about four years, and I have never seen there a single mastitis. Dr. Garrigues, of New York, has for several years followed a certain line of treatment, which he says "is so effective that we have no mammary abscesses at all" in the maternity over which he has charge.

I will not detain you by attempting any description of abscesses of the breast, including those horrible multiple ones, which continue for many weeks, or even months, always producing an immense amount of suffering, and sometimes even causing death. Velpean gives reports of cases lasting three, six, and eight months respectively. My intention is to confine my remarks to prophylactic treatment—the all-important part of the subject ; because I consider mastitis which leads to abscess largely a preventable condition. I understand that Drs. Machell and Primrose, and other members present, will discuss other aspects of the subject, such as curative treatment, and especially the treatment of abscesses.

Of course, before we can decide how we are to prevent mastitis, we must make up our minds as to the causes. Without any attempt at a discussion of the matter in detail, I will take it for granted that the chief cause is sore nipples, while a secondary, but not insignificant, cause is what Garrigues calls milk stasis.

Prevention of Sore Nipples. We have been told by many that it is well to look after the nipples and breasts, especially primiparæ, for some time before the advent of labor, and employ applications of astringent and spirit lotions for the purpose of hardening the nipples. Herman says, "This often prevents sore nipples." I simply mention such meddlesome methods in order that I may condemn them in the most emphatic fashion possible. I believe that nipples "hardened" in any such way are much more apt to crack and become "sore" than those that are severely left alone.

I shall not refer to the thousand and one remedies for sore nipples. Among the many good ones at hand, each practitioner is apt to choose his favorite. For some years I have used what I consider to be the best application I have ever seen, and which was first recommended, so far as I know, by Hirst, of Philadelphia, viz.:

Castor oil, } Equal parts.
Subnitrate of bismuth, }

I have applied this in all cases as soon as there is the slightest suspicion of tenderness in the nipples. It is, of course, perfectly bland and safe for both mother and babe, and it is not necessary to wash the nipples before the child is applied to the breast. If you desire to have a woman amuse herself for a few weeks before labor by manipulating her nipples, it is far safer to place this combination in her hands than astringent and spirit lotions. If the castor oil and bismuth fail to give relief, I use a nipple shield. I will not recommend any particular form of shield, but I generally prefer one with a broad base and a dome which will not press on the nipple.

Treatment of Congested Breast and "Caking." When the breasts become swollen and tender, the best form of treatment is well-directed pressure. The idea is not new, but I think many of the methods in vogue are faulty. For some time I used either a roller bandage or adhesive straps. The bandages easily got out of place, while the straps frequently caused much irritation. During the last few years I have followed the plan of Dr. Garrigues, of New York, who applies a breast-binder in all such cases. Before his time the general plan in the New York Maternity Hospital had been to empty distended breasts with breast pumps, rub and knead them when caked, and apply poultices. In 1882 Garrigues stopped the pumping, rubbing, and poulticing business, and applied even compression by means of a binder, made of muslin, enveloping the chest, pinned rather tightly in front, and held up by shoulder straps. The head nurse of the hospital, Miss Murphy, improved on this by devising a very suitable and convenient binder, which is known as "The Miss Murphy Breast-binder."

In speaking of this binder, Dr. Garrigues says : " It is used on all patients, without exception, from the time the breasts begin to fill until the patients are removed to the convalescent ward ; that is, from the third or fourth day until the ninth. It is pinned from below upward, the patient herself helping to bring the breasts as high upward and inward as they will go, and a piece of wadding is inserted between the two so as to have a corresponding pressure over the inner portions. Last of all, the shoulder flaps are pinned together. In normal cases the binder is put on in such a way as just to give support, and is opened down half way every time the child nurses."

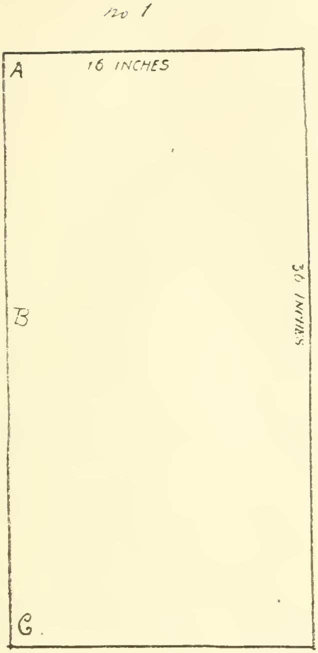
The Murphy binder has been used in the Toronto Burnside for some time, with very satisfactory results. I liked it so well that I desired to use it in private practice. It is, however, " ready-made and hemmed," and, as I dislike to carry in my obstetrical satchel too many things, I wished to get some modification which I could make, or have made, in the patient's house when required. I consulted Miss Snively, the lady superintendent of the Toronto General Hospital, and she accomplished what I wanted in a very satisfactory way. All that is required is a piece of cotton and a pair of scissors ; and, in a very short time, one can cut out what is practically a Murphy binder without the *hem* and *make-up*. The following rules and diagrams, furnished by Miss Snively, explain very clearly how it is made :

In private practice, I use the Miss Snively binder in all cases where the breasts become in the slightest degree uncomfortable from distension. It affords a wondrous degree of comfort in a large proportion of cases ; especially is it useful when the child is stillborn, and it becomes necessary to " dry up " the breasts. In such cases Garrigues first covers the breast with a circular piece of lint soaked in atropin-glycerine (gr.i. ad. ℥i.), places cotton batting over this, and then fastens the jacket tightly over all. He often leaves this dressing untouched for a week. I have followed this plan with most gratifying results. I do not find, however, any necessity for the atropin, and do not now use it.

The binder has one drawback which should ever be kept in view in the nursing woman. It diminishes the secretion of the milk when tightly applied. In consequence of this I do not use it in all cases, as Garrigues does, but only when the breasts become tender. I am very careful only to make it sufficiently tight to relieve pain, and I remove it as soon as I can.

I may say that my experience agrees with Garrigues' in this respect, that I have not had quite such good results in private practice as I have seen in the Burnside. This is probably due to a want of skill in the use of the bandage by parties who have never used it before. However, I am well satisfied with my record as to mammary abscess, showing, as it does, a frequency of about one-fifth of one per cent. I am still doing my best to bring it down to *nil*, and hope to succeed.

BREAST BINDER.



No. 1.

Fold *A* to *C*, then *B* to *C*.

No. 2.

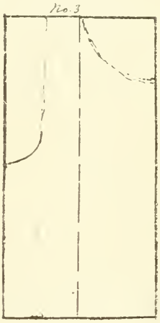
Represents cloth folded ready for cutting.

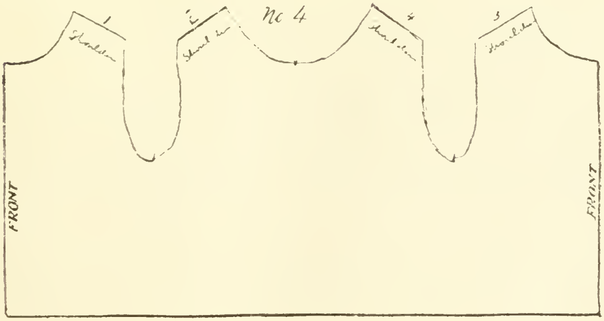
No. 3.

Represents by dotted line the part to be cut out for arm and neck, with centre line representing fold.

No. 4.

Represents binder completed. Pin No. 1 and 2 together, and 3 and 4 together, to form the shoulders.





PEPSIN AND ITS INCOMPATIBLES.

By J. T. Fotheringham, B.A., M.D., Etc.

Perhaps no drug has more frequently had a coach and four driven through its compatibilities than pepsin, partly because until recently the books were inexplicit as to its uses, and partly from forgetfulness of the rules that lie on the surface of our latter-day physiology. No drug, perhaps, in the pharmacopœia is looked upon with such suspicion as to purity, and prescribed with as little confidence ; and so long as the production of the drug lies in the hands mainly, or at least largely, of the meat-packing concerns, so long will this uncertainty exist. The mere price of the article, and the name of the firm, are no guarantee as to the merits of the particular brand, and, being often liquid or powdered, adulterations are very common. The real test of merit is its zymotic or digestive power, and simple ways of applying it are given, that of the U.S.P. differing somewhat from that of the B.P. Dr. R. G. Eccles, of Brooklyn, N.Y., in the December number of *The Brooklyn Medical Journal*, has an interesting paper, entitled, "How Physicians Prescribe Pepsin." He points out how the manufacturers take advantage of the fact that while the earlier pharmacopœias did not order the allowance used in testing to be comminuted. the more recent ones do, and thus "the earlier saccharated pepsins, being expected to digest fifty times their weight of lump albumen at 100°F., were therefore nearly ten times stronger than our modern ones." The test now reads, that "digested at 100°F. for six hours, a slightly opalescent solution is obtained from 1 saccharated pepsin, 500 water, 7.5 hydrochloric acid, and 50 of hard-boiled egg-albumen," which is ordered to be finely subdivided by squeezing through a sieve. The German standard requires 100 grains of albumen instead of 50. The British test demands that 2 grains should in 30 minutes dissolve 100 grains of finely divided hard-boiled egg-albumen, the other conditions corresponding to the U.S.P. test. Dr. Eccles points out the danger of prescribing a pepsin without naming the maker. "The druggist can take his choice from any one of the dozens upon the market. Five grains may be able to digest over twenty thousand grains of comminuted albumen, or it may not be able to digest more than five hundred. If the druggist puts in the best, it will be forty or fifty times stronger than the poorest. Price is no criterion, for one of the poorest is a high-priced article, and one of the very best sells wholesale at a reasonable rate. Nor can the claims of the manufacturers always be relied on. Usually, it is wise to take their florid statements *cum grano salis.*" He might have added that it is unsafe to specify a brand unless the patient be sent to a particular druggist whom the prescriber knows to keep it. As to its purity, the sense of smell is the best criterion. An article prepared from stomachs that have lain till putrescent will be septic with various germs, and "a pepsin that is highly insoluble in water and very dilute acid is very likely to be highly infected, because of the way in which it is procured. A soluble pepsin that gives out a foul odor after twenty-four hours in solution in a warm room should never be used."

As regards compatibiliy, pepsin, like the alkaloids of high and unstable molecular structure, is best given alone. It is easier to remember the few substances with which it may be given than those which destroy it. They are sugar of milk, dilute acids, glycerine, water, and alcoholic solutions of not over twenty per cent. strength. The dose is usually too small ; a drachm of the best may be taken quite safely. As to giving it with alkalies, when it is the natural enzyme of the acid gastric juice little can be said of the thoughtfulness of those who prescribe it ; yet Dr. Eccles gives this as the work of a gentleman in good standing in the profession :

℞.—Pepsinæ sacch. . . . . ʒi.
Sodæ bicarb. . . . . ʒss.
M. Ft. chart. No. xv.
Sig. : One every three hours.

He goes on to add that a single grain of the soda would destroy all the pepsin in the prescription as effectually as if it were thrown into a furnace.

The foolishness, also, of giving pepsin and pancreatin in one powder needs no comment, though such preparations are much exploited by some firms. The *time* conditions in the test are essential, as food passes through the stomach in two or three hours, and the pepsin must act within that time to be of service. The reason of the error that prescribers fall into is probably that they seek to counteract the acidity usually accompanying the conditions in which relief is sought from pepsin. The acidity must be relieved before the pepsin is given, unless the pepsin be given with the stomach's natural antiseptic, hydrochloric acid, which checks hyperacidity by preventing fermentation and the formation of lactic, and even acetic, acid.

OSTEO-CHONDROMA OF THE HAND.*

By Edmund E. King, M.D., L.R.C.P. Lond.,
Surgeon to St. Michael's Hospital; Physician to House of Providence and Home for Incurables.

Mr. President and Gentlemen,—The case I wish briefly to draw your attention to this evening is one that, while it cannot be looked upon as exceedingly rare, is not by any means common. It is the first case of the kind I have seen outside the anatomical museums. Its size will certainly allow it to stand amongst the best specimens we have of the enchondroma or osteo-chondroma (for both names are used) of the hand. If the tumor be named from the preponderance of one tissue, and from its point of origin, we would say enchondroma; but should we take into consideration the bony development, and the manner in which this development takes place, at isolated spots throughout the tumor and at the borders, just as in normal bone formation, then osteo-chondroma or ossifying chondroma is proper. This is the term which I adopt.

David B., aged 22, single.

Family history. Good. No growths of similar kind have ever been known in the family.

Previous history. Good. No illness except measles in early childhood.

History of present condition. When about six years of age, small nodules were noticed on his fingers and on the back of the hand, his mother says in the location of the present larger ones; these were not painful nor sensitive, nor was movement of the hand and fingers affected. His mother also says that he was in the habit of crying when this hand was washed; but, from childhood's experience, we should not lay too much stress on this. When about seven years of age, his hand was stepped on by a grown person, which is the nearest approach to injury that I can find in his history. The growth was slow and gradual, although some tumors grew more rapidly than others. The growth on the second finger has been frequently bruised by a hammer blow, without causing pain; it would bleed freely, but hemorhage was easily controlled. The tumor on the second metacarpal bone was the one of most rapid growth, but during the last two years it seems to have decreased in size.

Present condition. The fourth finger and thumb are free from growths. The first finger has one, on the inner side of third phalanx, about one inch wide, an inch and a half long, and raised nearly three-quarters of an inch from surface of the bone. The terminal phalanges of second and third fingers are free; the rest are all implicated. The second, third, and fourth metacarpal bones are seats of growth, that on the second metacarpal being the largest, while the os magnum and unciform bones of the carpus are affected. The first and fourth fingers have good movement, but extension is not complete in fourth owing to the tumor on fifth metacarpal, affecting the tendon of the extensor muscles. The extensor movement of second and third fingers is entirely gone. There is no impairment of the flexor muscles, and the patient has strength enough in the terminal phalanges of second and third fingers to hold a pailful of water.

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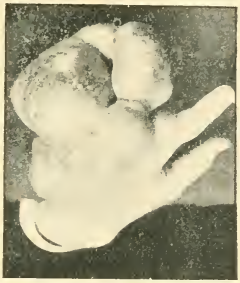
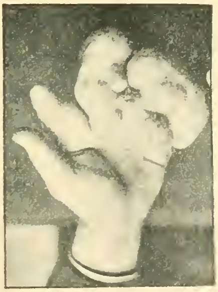
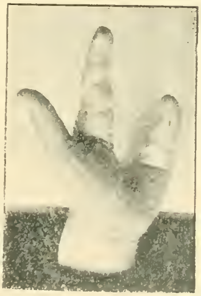
*Read before the Toronto Clinical Society.



Photograph of Back of Hand
(Showing at extreme left the growth on fifth metacarpal).



Photograph of Front of Hand
(Showing growth on third phalanx of first finger).



Photograph of Hand after
the Operation.

On May 7th, I operated (assisted by Drs. W. Lehmann, W. H. B. Aikins, and John Caven) removing the second and third fingers, metacarpal bones, and part of the os magnum and unciform bones of carpus. I made a dorsal incision and dissected back a flap, disarticulating the lateral metacarpal articulations, cutting through the wrist bones with chisel; then, dissecting close to the bone on the palmar surface, made the second flap without wounding the palmar arch. I also removed part of the growth on the first finger, leaving a groove for the extensor tendon to work in. A considerable hemorrhage occurred from the cut bones and the surrounding tissues, but was controlled by ligation of the vessels that we could pick up, and the oozing by hot water. The flaps were brought as well as possible together, and the wound dressed with iodoform crystals and gauze. Recovery was uninterrupted; but owing to the fact that a large cavity had to fill with granulations, healing was not completed until June 3rd. The result I show you in this photograph, taken a few weeks ago. The tumors and fingers weighed after removal 2 lbs. and 5 oz.

The chondromata are of two sources of origin—either peripheral, from the outer layers of the bone and fibrous layer of the periosteum; or central, from the medullary canal. When central, the whole bone enlarges with regularity in all directions of its circumference; but when peripheral, only outward from the seat of origin. The central variety is mostly found in the long bones. Sometimes these tumors coalesce and form one large mass (Paget). This can be seen in this specimen, but the tumors of different fingers did not coalesce—only those of the same finger. The skin rarely ulcerates from pressure; but in one case, the history of which I have, a large ulcerating surface was seen on one of the large tumors. The disease occurs in the early period of life, and is more frequent in boys than girls. The size to which these tumors attain I should attribute to the little inconvenience they cause, outside of their bulk and unsightliness.

The predilection of the disease is for the hand. Councilman says that 50 per cent. occur on the hands and the feet, and on the hand five times as often as on the feet. The thumb is much less frequently affected than any other part of the hand; the remaining parts are about equally often affected. Paget thinks that in the majority, if not in all of the cases, the tumor is of the central variety—*en*chondroma proper—that is, within the bone; but these tumors of the phalanges here shown appear to me to be of the peripheral variety, or else we should expect to have a symmetrical enlargement, as much on the palmar surface as on the dorsal. We can see how the fibres of the extensor tendon and the periosteum have been stretched and spread out like a fan; how they have indented and impressed the tumor into ridges where the greater resistance has been. But on looking at the palmar side, we see that the flexor tendons are working in a perfect manner; although some of the tumor has surrounded them, it has not caused pressure behind them to destroy their usefulness. This may be explained by the manner in which the flexor tendons pass through one another, divide and unite again, and are bound to the joint by the fibrous aponeurosis; but still if the tumor were central, I should expect to see these tendons, like the extensors, stretched and distorted out of all shape. The patient presented himself about six weeks ago to see if I would remove the growth on the fifth metacarpal, believing that its removal might give more extensor movement to the little finger. Although since the partial removal of the growth from the first finger it has steadily decreased in size, yet I would not decide to operate further until at least a year has elapsed.

(TRANSLATION.)

ULTRA-ABORTIVE TREATMENT OF GONORRHŒA.

By M. P. Diday.

This title means a progress. Like every other pretension, it has to be explained; it has to be justified, before all.

Most writers on this subject say: "Abortion has chances of success only as far as the inflammation of the urethra has not gone beyond a certain degree." And as this given degree can be overcome by a certain given dose of the medicinal agent, they make this dose the normal one. Every one has his own, it is true; but every one, from Musitanus to ourselves, sticks to his own, prescribes and uses invariably the same in all cases when he thinks he should try abortion.

I have made the same mistake. But happening to have been enlightened by success obtained under the opposite conditions, I reason and act differently now. Starting from a different point, and making it a rule to adapt in each single case the dose of the remedy to the intensity of the disease, we are going, before all, to save unnecessary suffering to certain patients that see us in the—so to say—pre-gonorrhœic period; but especially—and that is of greater value—we are going to extend the limits of the so-called possible abortion.

The period during which one single injection can be effectful certainly has a limit; and this limit is put before all by a certain stage of development of the inflammation. But there is nothing absolutely certain about it, for I have been lucky enough to heal by one injection cases of gonorrhœa that were already decidedly purulent; and, on the other hand, I have seen failures in cases that were only of thirty-six hours' standing. But putting apart these intrinsic causes of success or failure, we evidently also have to take into account the degree of the strength of the medicinal agent at our disposal that it is advisable to use.

Are we going to fix this degree according to the development which the symptoms offer at the moment before application? Are we going to make the solution of nitrate of silver 1 in 50, 1 in 40, 1 in 30, according to the degree of œdema and redness of the lips of the meatus, of pain in passing the urine, of the quantity and purulent tinge of the secretion? This is quite rational, and much better than the uniform dose; but is it sufficient?

I, for my part, have not found it sufficient. And this is easily understood. If our therapeutical prescription is based on clinical signs only, it has the character and the value of these signs only—the character of a conjecture, the value of a mere supposition. To give to the patient a prescription in which the dose of the nitrate of silver is calculated on the basis of those signs only is just the same as in the case of a patient sick with typhoid fever, telling the attendant to give him his bath of such and such a temperature and duration . . . and walk away.

However, this will do, generally, in a case where everything goes its regular course, and has done so before. But does the high temperature resist your treatment? Does any grave complication seem to be imminent? You sit down by your patient, with your thermometer, and, judging from the immediate effect that you observe, you make up your mind to what degree it is necessary, as well as wise, to push and to keep acting the therapeutic agent.

This comparison justifies, I think, the reform which I am proposing. And as to the reform itself, it consists in the following:

It is beyond doubt that the injection of nitrate of silver takes so much the more effect the more concentrated it is. But it is not less true that it acts so much the more the longer it remains in contact with the tissues. To fix the dose beforehand by the prescription given to the druggist, or to fix it during the treatment of the patient and in the urethra, are, as far as the effect that can be produced is concerned, two equivalent processes; but the second one has the advantage to show to the physician when the effect *is* produced—produced to the desired extent.

This is, in two words, my way of proceeding: I always use a strong solution—one gramme of nitrate of silver to twenty grammes of distilled water. But, according to the case, I allow it to remain in the urethra a longer or shorter time.

What are the limits of this longer or shorter time? I have published a case of gonorrhœa of three days' standing, with purulent secretion, that has been cured by one injection, which the patient did not keep longer than seven or eight seconds.

"Did not keep?" This is not the proper expression for the bare fact. "Could not keep longer" expresses all that is useful to know about it.

In fact, you may explain the action of nitrate of silver either as a substituting one, or as being based on the destruction of tissues, or on the destruction of the microbes (the latter two really meaning the same). An established empirical fact decides the discussion, and must be our leading point in practice: I always saw those injections fail which—whatever may have been the strength—caused only slight pain at the moment of injection. The pain, therefore, is for me the necessary criterion of a sufficient curative effect.

The nitrate of silver asks the question, and the pain answers.

And this is why I prefer a dose that provides the physician with an excess of power, the use of which is going to regulate according to the information that the administration in each case gives him.

"But does the pain speak a plain and distinct language?" you may say. "Does it not vary? Is it not feeble or strong according to the nervous susceptibility of the patient? And even if two individuals have perceived it in the very same degree, will not one of them express it by much more marked manifestations?"

These difficulties, that seem insurmountable in theory, do not hinder the practitioner. Tell your patient candidly beforehand that the injection *is going to give him pain.* This is a moral duty for the physician; but it is, before all, a means of seeing clearer, for from the very way in which he accepts this notice you may judge the degree of his nervosity; and, besides, this will help you to distinguish during the administration the signs of fright from the signs of real pain.

In the second place, one has to know that every injection, even one of cold water, causes a certain shock. Let us pass over this sensation, which is quite different from true pain. In the fourth or fifth second this commences, and from this moment it will increase.

How can we know if it is sufficient? and if, on the other hand, it does not go beyond the desirable degree? As we have no algometers, it is easily understood that there is no definite rule for this matter. Nevertheless, it would be imprudent to rely only on what is called the *tact* of the practitioner. The following remarks are perhaps apt to serve as a guide:

Does the patient who has received the injection feel immediately a sharp, violent, and continued pain? Do not allow the fluid to remain in for more that fifteen or twenty seconds.

The same mode of proceeding if after the fortieth or fiftieth second the pain—having been strong, but endurable, at the beginning—is increasing yet.

With the exception of these cases, one may and one should leave the fluid in the canal up to about two minutes if the pain is uniform and is well marked, but not unendurable.

As I have—to my great regret—to leave the practitioner so imperfectly informed in this somewhat delicate affair, he will often have to ask himself if he has not erred from excess of timidity or from excess of prudence. Especially against the first of these apprehensions I am going to protect him. It is not the true interest of the patient to suffer a little less from the administration and its immediate consequences. What he asks from you and what you promise him is to rid him in a few minutes of a disease which often lasts for months, and the physical, moral, and social inconveniences of which cannot be overrated.

And this is the way the patients look at it. Those that have been most abused by my syringe are afterwards those who show the greatest gratitude for my not having given way under their complaints. The visit on the fourth day is always, I can assure you, one of hearty thankfulness, provided that you have to pronounce the case cured.

A few words on the opposite case. Sometimes, whatever you may think to have done to follow the rule, one must suffer if he wants to be cured. Sometimes the pain, that seemed to be sufficient, has stopped two minutes after the escape of the fluid. You see the patient rub his hands and congratulate himself on having escaped so easily! Without any intention of deceit on his part, you have been taken in. He has shown more pain than he really had.

In these cases make good,right away, by a second injection what has been left incomplete. This has to be done immediately. If, as some authorities of good reputation advise, you await till the third or fourth day to judge, after the relapse has taken place, if the same administration should be made use of, you are sure to fail. Why, indeed, did you fail the first time? Solely because the disease was too far advanced in its development. Well, three or four days more could only aggravate the unfavorable condition of affairs. What right have you to hope to conquer it if you are going to fight it with the same weapon that has already shown its impotence? In cases of gonorrhœa, a second or a third injection given with a view to abortion of the disease is only a second or a third logical contradiction.

As to the results, shall I give here a list of minute observations? The way in which I have treated my subject does not seem to combine well with that kind of proof. I prefer to simply declare that for one year I have been working on these principles, and that I have often been successful in my trials of abortion—successful in rather advanced stages of development of gonorrhœa.

I give, however, as a conclusion, a condensed report of a fact that is as instructive as it is interesting ("spicy") in its detail.

I am sorry—and glad at the same time—that I differ from one of our most amiable colleagues on a point of special practice. In a given case of established gonorrhœa, that is to say, in the inflammatory stage, he teaches —because he thinks one can be successful—that one should attack the disease by copaiba and injections ; whereas I pretend that this treatment will in most cases fail to give satisfaction, and it is preferable, after the moment for attempting abortion is passed, so wait until the secretion has become " ripe."

One day, after a discussion that was more animated than usual, we parted, I obliging myself to try his method (which I had written down carefully from his dictation), he promising to send me *his proofs ;* that is to say, patients treated and cured by him.

In consequence I received, on the 29th of last March, the visit of a student of medicine that had been treated by him for a week for beginning gonorrhœa, with a result that he had described to me as a half success, but which since the day when my colleague made this too modest statement had transformed into a full success—to the entire satisfaction of the three parties interested, myself included.

What, then, had happened ? The patient at least explained it to me. " I had the copaiba and the injection prepared," said he, " and I have made use of them as prescribed. Only, instead of three injections a day—as had been ordered—I could only make one, as it made me suffer terribly ! "

Myself : " Indeed ! Please let me see the prescription."

The Student : " Here it is. Read it, sir."

Aq. dist.	180 grm.
Van Swieten's liq	20 grm.
Zinci sulph	1 grm.
Bismuth salicyl	5 grm.

Myself : " 20 grammes of Van Swieten's liquor to 180 grammes water. . . This may well be called a stiff dose, but there is nothing extraordinary about it. And I don't understand. . . . But let us see ; how long did you keep it ?"

The Student : "As I had been ordered ; forty-five minutes. Oh ! sir, I needed all my courage."

Myself: "But there has been a mistake; one should have told you, and one certainly has told you—four or five minutes."

The Student : " Oh, that is it ! That is good !" Then, after some reflection, " However, I am cured."

And indeed he was, and of a gonorrhœa the gonococcic nature of which had been verified by a hospital surgeon. Just as my patient of 188, with his *ten per cent.* solution of nitrate of silver (which he thought he had seen recommended in my book), this one with his forty-five minutes—the one by having read erroneously, the other for having misunderstood a direction. Both happy victims of an error—an error that is, I dare hope, destined to become the basis of a system.

Clinical Notes.

EXTENSIVE INJURY TO ELBOW JOINT.

By J. H. Wesley, M.B.,
Keswick, Ont.

W. P. -Farmer's son, æt. 15. Family and personal history good.

On February 8th, 1892, was cutting feed with a straw cutter, and as the material was not going through properly he gave the wheel several quick turns, then ran round to raise up with his right hand the pin that compressed the straw, and in so doing stuck his elbow in the way of one of the knives of the large wheel. As the patient lived five miles out in the country, considerable hemorrhage had taken place before surgical assistance arrived.

State on Examination. A clean cut, four inches in length, fairly over the posterior and under the surface of the right elbow joint, directed from above and behind obliquely downward and forward, chipping the lower extremity of the humerus, and opening the joint cavity by separating the epiphysis from the shaft of the ulna. The olecranon process was drawn up two inches by the contraction of the triceps muscle. The nerve trunks were all intact, and only a few small anastomotic arteries cut.

Treatment. Patient was put under an anæsthetic by Dr. Bentley, of Sutton. The olecranon was drawn down to position and united to the shaft by a silver wire suture, a common table-fork being used in the absence of Brynard's bone drill. The drainage tube had to pass between the coapted surfaces of bone into the joint cavity, and for this reason they could not be brought close together by the silver wire.

The external wound was closed with silk sutures, and dressed with moist bichloride dressing.

The joint was placed at rest in a position a little more than a right angle, the forearm supinated, and fastened to a splint which is not likely to be found in the works on surgery, but was merely contrived to suit the demands of the case; and these were (*a*) to maintain rest and the flexed position of the limb; (*b*) and at the same time to allow of freedom in dressing the wound without disturbing the position of the joint.

The splint consisted of a triangular web of thin board. The angle fitted into the bend of the elbow, and was hollowed out sufficiently to permit of bandaging the entire circumference of the joint. On the sides were fastened thin strips of board one and a half inches wide, well padded, and, lastly, on these two padded surfaces were tacked strips of adhesive plaster, by which the splint was held to the arm and forearm.

For the first week or ten days the temperature was between 100° and $102\frac{3}{5}$° ; but by probing and syringing out the joint cavity every day with antiseptic solution, the temperature soon became normal, and the large wound, which on account of tension had failed to unite by first intention, began to assume a healthy appearance. Twenty-one days after the operation the silver suture was found loose and taken out; the epiphysis had firmly united. The wound was completely healed by March 1st, 1892,

RESULT. Patient has perfect use of his arm for all kinds of heavy and light work. There is ankylosis through an angle of about 20° on extension; but flexion, supination, and pronation are excellent.

A CASE OF CHOREA AND RHEUMATISM.

By W. B. Thistle, M.B., Toronto.

As bearing on the relation of chorea and the rheumatic state, the following case is of interest. The patient, a well-developed girl of about fourteen, was admitted to the Victoria Hospital suffering from pronounced chorea. The history brought out the fact that until about a week previous to admission she had been in robust health. At that time she complained of pain and tenderness in wrists, followed shortly by involuntary movements. At the present time both wrists and ankles are swollen, red, and tender. She has elevation of temperature, and there is an erythematous rash on the face; no heart murmur is audible. The choreic movements are almost constant, and so violent and extreme as to prevent her walking or feeding herself. Precautions were necessary to prevent her falling out of the bed. She was ordered to be kept in bed, and as free from worry and excitement as possible; liq. arsenicalis, beginning with *m* vii. dose, to be given three times a day, the arsenic to be increased *m* i. every second day. In addition, she was put upon a mixture of soda salicyl. and the acetate of potash, grs. xv. of each every four hours. The bowels were freely moved by calomel. In order to procure sleep, and, as a result, cessation of movement, sulphonal, grs. xx., to be given in hot milk one hour before bedtime. Improvement began at once. On the second night she slept five hours naturally, the next seven hours, and from that time the usual amount of sleep was obtained. Salicylate mixture was discontinued at the end of a week, the joint symptoms having disappeared. Three weeks from date of admission patient was almost well, slight movement only remaining. It would seem that the action of the rheumatic poison on the nerve cells is in these cases sufficiently irritating to interfere with their function and bring about the chorea. To eliminate, and as far as possible counteract, the poison in every case in which there is or has been evidence of its presence would seem to meet the indication in the way of preliminary treatment.

Progress of Medicine.

MEDICINE

IN CHARGE OF

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THE IRREGULAR HEART.

At a recent meeting of the Medical Society of London, Dr. A. E. Sansom read a paper on the above subject based on an observation of forty-seven cases presenting pronounced cardiac irregularity for long periods, all of them being independent of structural disease of the heart. They were considered in two groups, the smaller being made up of ten cases of Graves' disease. The associations of cardiac irregularity in the larger group were: 1, Dyspepsia; 2, syphilis; 3, osteo-arthritis; 4, disturbances of the sense of hearing and naso-pharyngeal affections (illustrative cases were given under this head which tended to show that a reflex from the naso-pharyngeal tract and from the neighborhood of the auditory mechanism was often a potent cause of cardiac irregularity; 5, influenza (instances were given of special forms of arrhythmia due to the disturbance of the nervous mechanism by this cause); 6, mental disturbances and the effects of severe nervous shock; 7, cases without notable associations (these were parallel with those cases of rapid heart which showed no notable morbid alliances).

The author submitted that all forms and degrees of irregularity, from the slight to the most pronounced, were to be ascribed to disturbances of the nervous mechanism of the heart.

The cases without notable associations might point the lesson that whilst the central disturbance from which the other affections of Graves' disease were offshoots brought about in the majority abnormal rapidity of the heart's contractions, in the minority it induced irregularity. So, in many instances, arrythmia cordis might be considered a *forme fruste* of Graves' disease, only it was better to express it that the *ensemble* of the phenomena of Graves' disease was due to the extension from the area of disturbance, which was focally that portion of the nervous system which was concerned with the regulation of the heart's movements. In all such cases, whether manifesting tachycardia or arrhythmia, outbreaks of dyspnœa or of gastro-intestinal disturbance—vague storms, as he had termed them

—were frequently observed. It seemed probable that whilst sudden overstrain was more likely to produce a tendency to morbid acceleration, the more chronic forms of mental depression tended to be associated with irregularity.—*American Journal of the Medical Sciences.*

STUDENTS IN THE SCOTTISH UNIVERSITIES.

The Edinburgh Evening Dispatch of January 12th, 1893, gives the following interesting statement of the numbers of matriculated students in Edinburgh University for the past four years:

Year.	Arts.	Divinity.	Law.	Medicine.	Total.
1889	981	124	472	2025	3602
1890	940	116	468	1979	3505
1891	942	88	485	1839	3354
1892	881	82	460	1715	3138

Total diminution during the four years, 464—made up of 100 arts, 42 divinity, 12 law, 310 medicine. The corresponding figures of Glasgow University are as follows:

Year.	Arts.	Divinity.	Law.	Medicine.	Total.
1889	996	95	192	818	2101
1890	998	88	197	770	2053
1891	972	93	206	820	2091
1892	941	89	205	760	1995

Net diminution during the four years, 106—made up of 55 arts, 6 divinity, 58 medicine—less increase in law, 13. The foregoing figures do not, in the case of either university, include students enrolled in non-curriculum classes on payment of 5s. fee, or include female students. For the current session 127 women are matriculated at Glasgow and 70 at Edinburgh.—*London Lancet.*

GLYCOSURIA IN INFANCY.

Considerable attention has recently been directed to the occurrence of diabetes and glycosuria in young children. Dr. Julius Grosz, of Prague, writing in the *Jahrbuch für Kinderheilkunde*, Band xxxiv., Heft 1, comes to the following conclusions: In certain digestive disturbances there is occasionally present in the urine of infants a strong reducing agent which gives the qualitative tests for sugar, and which is optically active, but does not ferment (not answering, therefore, to the yeast test). Minute quantities of carbohydrates are also found. Dr. Grosz never found glycosuria in healthy breast-fed infants. When it did occur there was always some alimentary trouble, most commonly gastro-enteritis. There is often an increase of reducing substances in the urine of infants in addition to the substance referred to above, which is probably either lactose or some product of it. The limit of assimilation of milk sugar in infants is very high, being in healthy breast-fed children about three grammes and three-tenths per kilogramme, against one gramme and four-tenths in adults. This limit, however, is easily lowered, especially by digestive disturbances, and the glycosuria in such cases is therefore probably due to this lowering of the assimilation limit, and partly also to the action of intestinal bacteria.—*London Lancet.*

THE REFLEXES IN TYPHOID FEVER OF CHILDREN.

Albouze, in a recent thesis (*Etat des Réflexes dans la Fièvre Typhoïde chez les Enfants*, Lyon, 1892), deals with this interesting subject. After considering the significance of the absence of the reflexes, especially the knee-jerk, in childhood, he alludes to the contradictory results obtained by different observers when the condition of these reflexes in typhoid fever has been the subject of investigation. These differences, he believes, can be explained by assuming that the researches have not been made at the same periods of the disease. As a result of numerous personal observations, he concludes that in typhoid fever in childhood, in the great majority of cases, the tendon reflexes are diminished in the acute stage, and increased in convalescence ; and that from this sign an important prognostic indication may be drawn, a very feeble degree, or even entire loss of the reflexes, pointing to an extremely grave form of disease.

On the other hand, the disappearance of the exaggeration of the reflexes will indicate the absolute cessation of the action of the typhoid poison upon the organism.—*American Journal of the Medical Sciences.*

BROMOFORM IN PERTUSSIS.

Cassel (*Deutsche medicinische Wochenschrift*, 1892, No. 5, p. 100) presents the results of treatment of thirteen cases of pertussis by this drug. The dose was three to four drops three times a day for children under one year, and four to five drops for older patients. The total amonnt of the drug employed during the treatment of a case varied from ten to twenty grammes. The mean duration of the disease was 61.3 days, 45.9 days having elapsed before the cases came under treatment. The paroxysms diminished notably in frequency and intensity, but the duration of disease was not lessened. It may therefore be said that bromoform acts like all narcotics in diminishing the excitability of the respiratory mucous membrane, but it certainly exerts no specific action upon the disease. Perhaps with larger doses the paroxysms might be suppressed, but, in the author's judgment, the risk of intoxication is to be dreaded.—*American Journal of the Medical Sciences.*

MURMURS HEARD IN THE NECK.

In view of the great difference of opinion amongst authors and teachers as to the diagnostic significance of the venous and arterial murmurs in the neck, Dr. James K. Crook's conclusions, after an examination of fifteen hundred persons, are of more than ordinary interest. He concludes as follows:

CONCLUSIONS. The important deductions from the foregoing statistical study of these vascular phenomena may be briefly summarized as follows:

(1) Hæmic bruits are rarely heard in healthy persons.

(2) They are not often heard in persons not showing a considerable degree of anæmia.

(3) They are heard in 90 per cent. of persons showing a well-marked degree of anæmia.

(4) They are, therefore, of great significance in the diagnosis of this condition.—*American Journal of the Medical Sciences.*

THERAPEUTICS

IN CHARGE OF

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THE BICYLE FROM A MEDICAL STANDPOINT.

Seneca Egbert, A.M., M.D., Lecturer on Hygiene, Drexel Institute, Philadelphia, in the *University Medical Magazine*, November, 1892, makes a strong plea for the cycle, and points out its therapeutic application.

In the first place, as an exercise, cycling is superior to most, if not all others, at our command. It takes one into the outdoor air, is entirely under control, can be made as gentle or as vigorous as one desires, is active and not passive, takes the rider out of himself and the thoughts and cares of his daily work; develops his will, his attention, courage, and independence, and makes pleasant what is otherwise often most irksome;

moreover, the exercise is well and equally distributed over almost the whole body, and, as Parkes says, when all the muscles are exercised, no muscle is likely to be over-exercised. This general muscular exercise also has its direct effect upon the other and vital organs of the body, especially the heart, lungs, and digestive organs; and the improvement in general health and digestion after a few weeks' riding is by no means illusory or fleeting. We all know that the trouble with many of our patients is purely functional, and that their maladies have been brought on by lack of pure air, too little exercise, and too much mental worry over their work or business. For these the bicycle furnishes an agreeable remedy.

Take a case of nervous or anæmic dyspepsia, of hepatic or intestinal torpor; the increase in the flow of the blood current, the gentle vibration, and the additional elimination of waste matter through the lungs and skin, all results of a ride on the wheel, are just what we desire for the cure of our patient. Or with one of a tuberculous diathesis or with incipient phthisis, how much depends upon teaching him to breathe properly, *i.e.*, fully and deeply, and to spend much of his time in the open air! This the bicycle will do for him, perforce. Cases, also, of neurasthenia, melancholia, and other nervous troubles, will derive much benefit from our present hobby; for, in addition to the above hygienic elements, the wheelman must develop—whether he will or not—his will, his independence and self-reliance, and the accurate control of all his muscles. Those of rheumatic tendencies, especially, will find that regular and systematic riding will do much to keep the disease in abeyance, and even to act as a cure. Some one has said that every muscle is a little heart; and surely no better means can be devised of eliminating deleterious waste matters from the whole system than the general and active use of all the muscles, voluntary and involuntary.

Undoubtedly, the excessive use of the bicycle or tricycle by very young children is not advisable. Bad habits of position and carriage are only too readily acquired at this age, and there is danger of serious muscle strain and possibly nerve injury. Another fault is that parents too often purchase a machine too large for the child in order to save the expense of a new one the following year, the result being that both the weight and the power needed to propel it are in excess of the child's abilities. Moderate riding on a proper wheel need not, however, be forbidden. For older boys and girls there is probably not the same danger, though intelligent supervision is never harmful, and especially watchfulness for incipient harm is advisable with girls about the time of puberty. Even at this time the bicycle may do good by drawing a too studious or house-loving youth or maiden into the open air and active exercise.—*Medical Age.*

[I have found the use of the bicycle of great service, and can endorse the above article. During last summer I found myself entirely relieved from attacks of migraine, which were becoming altogether too frequent and severe, after I began the use of the bicycle. My power of endurance was greatly increased, and I was able to perform more work.—O.R.A.]

HYDROGEN PEROXIDE.

In the December number, 1892, of the *Archives of Pediatrics*, this disinfecting agent received a severe criticism from the pen of A. Jacobi, M.D., Mew York.

There is no doubt that extravagant claims have been, at times, made in its behalf; but it is equally true that it has proven itself, when properly used, one of the best helps which the surgeon has within reach for the cleansing of pus-bearing cavities or surfaces. The following are some of the conditions in which experience has shown it to be of service:

Purulent otitis: To dislodge and drive out adherent pus from the middle ear and from the external canal. The suppuration has been of shorter duration, and the damage to the tissues less, in cases treated with this drug.

Abscess cavities can be quickly and thoroughly cleansed by injecting them with this solution and waiting until the reaction ceases, when it is well to wash the cavity out with hot water and repeat the treatment with the peroxide. To be successful, the cleansing should be thorough.

Diphtheria has been extensively treated by it in Toronto, both in private and hospital practice. The disadvantage in these cases is that it may, if sprayed into the throat, irritate the larynx and prepare it, by congesting its mucous membrane, for a more ready attack of diphtheritic croup. This can be avoided by using it carefully, and, instead of spraying it forcibly into the throat, simply brushing it on the diphtheritic membrane frequently, so as not to cause it to touch the larynx.

It thus becomes a very valuable help in washing out of the throat the toxines, the absorption of which renders the disease so dangerous to life. O.R.A.

GALACTAGOGUES.

Griniewitsch (*Münchener medicinische Wochenschrift*, No. 34, 1892) discusses the remedies which promote the secretion of milk. He mentions electricity, galega, urtica, anise, caraway, and fennel.

These remedies are entirely harmless to women, and the improvement in children who before their use showed defects of nutrition demonstrates how advantageously the milk is changed by them. The best of these remedies is galega, which is used as follows :

℞. Extr. galeg....................50.0(℥iss.)
Syr. simpl....................1000.0 (f℥xxxii.)

M. d. s. A tablespoonful four or five times daily.

It may be administered in pills containing 0.25 grm. (gr. iv.) of the extract of goat's rue each, and 1 to 4 pills given daily.

Urtica is prescribed thus :

℞. Extr. urtic..............200.0 (℥vi.)
Syr. simpl..............1000.0 (f℥ xxxii.)

M. d. s. A tablespoonful four or five times daily.

Anise, caraway, and fennel are given powdered, one to five grammes (gr. xv. to iv.) daily.

[Galega certainly appears to have a decided galactagogue effect. Not only the quantity of milk is increased, but its quality is improved, while at the same time the health of the mother is benefited. This should be borne in mind, as we very often need just such a remedy, and in the past have looked in vain for one.—O.R.A.]

The Cardiac Tonics and Their Indications.

At a recent meeting of the British Medical Association, the subject of the heart tonics was discussed. Broadbent spoke of rest or moderate exercise, and of eliminative agents. He said that strophanthus seemed to be the typical heart tonic, since it increases the power of the cardiac systole without modifying the contractility of the blood vessels. The author, who appears somewhat partial to this medicament, asserts that the failures reported at various times regarding strophanthus in practical medicine are due to the impurities of the preparations used. After strophanthus he places digitalis, adding that the former remedy sometimes acts from the first or second dose. He said that digitalis increases the elimination of liquids, while caffeine enhances that of the solids, and hence the utility of prescribing these two agents in combination in order to obtain the same good effect that a large single doze of digitalis would produce. Lauder Brunton answered that digitalis is at the same time a cardiac and a vascular tonic, but that it must not be forgotten that the principles of the drug do not act in the same manner. *Digitaline*, he said, increases both the contractility of the cardiac muscular fibre and that of the coats of the blood vessels, while *digitoin* produces a contrary effect ; thus, when in a cardiopathy there is an excessive constriction of the blood vessels, it is advisable to combine digitalis with vaso-dilator substances as nitrous ether, for example. Alongside of strophanthus Brunton places the oxy-spartein, which, like it, acts decidedly upon the heart, but not so much upon the vessels themselves. He believes that the best cardiac medicaments after digitalis are strophanthus and nitrous ether. The same author also insisted on the employment of muscular exercise in order to increase the arterial tension, but without putting strain upon the heart. In mitral disease, for instance, the rule is to have absolute rest; but in such cases massage is to be resorted to, a method by which the general nutrition may be increased without producing cardiac muscular exertion. It is, then, useful to associate to massage passive exercise. Lastly, Brunton recommended, in the treatment of mitral disease, for example, the administration of blue mass during the night and jalap by day.—*University Medical Magazine.*

Salophen.

This drug, a combination of salicylic acid and acetyl-paramidophenol, has been introduced to replace salol and other salicylates, as it is without taste or odor, and has a very feeble toxic action. It crystallizes in small flakes, insoluble in water, but soluble in alcohol and ether.

Dr. Camner (*Therapeutische Monateschefte*) says that it is not acted upon by the acid secretions of the stomach, and that it is only after it has passed into the intestine that is decomposed into its constituents, salicylic acid and acetyl-paramidophenol, under the action of alkaline intestinal secretions. He obtained particularly good results in acute articular rheumatism by administering ninety grains a day, in six doses of fifteen grains each. It did not in the least disarrange digestion; and, under its influence, there was a marked decrease in pain, redness, and swelling; and in from six to ten days the patient entirely recovered, nor have any relapses so far been observed. The analgesic action of the drug is probably due in part to acetyl-paramidophenol, which is a decomposition product of phenacetine. He has also found it successful in habitual headaches, trigeminal neuralgias, and records its failure in one case of sciatica. In all the cases no toxic effect was noticed. Dr. Wm. H. Flint (*N. Y. Medical Journal*) confirms its usefulness in cases of acute rheumatic arthritis.

G.C.

Is Milk the Best Food in Typhoid?

At a recent meeting of the Practitioners' Society of New York, at the Academy of Medicine, a discussion took place between the prominent physicians present on the question of a milk diet in continued fevers. It was the general opinion of Drs. Beverly Robinson, A. H. Smith, Robert

Abbe, and W. H. Polk that an exclusive milk diet in typhoid, as was so generally advised by doctors, led to much harm. They all thought that such a diet prolonged the fever, and all reported cases in which convalescence at once set in on giving solid food. The objection brought up against milk was that it fermented and irritated the existing ulcers. It was shown that solid foods, if properly prepared, were not solid after leaving the stomach, and were in no condition upon reaching the ilium to irritate typhoid lesions. They claimed that a patient on a milk diet was hungry, and that hunger itself, being a form of pain, kept up the temperature; but that solid food, properly given, relieved this pain, hence lowered the temperature. It was mentioned that in former days a patient who was to have his abdominal cavity operated upon was restricted to a milk diet for two days before and for ten days after the operation; and that often disastrous results, which were attributed to shock and sepsis, were due to inanition. The foods that were suggested as a substitute for milk were stale bread, scraped meat, baked potatoes, bouillon, fermented milk, beaten egg, wine jelly, and junket.—*Medical Age.*

Tetanus Treated Successfully by Antipyrin.

Caviana and Venturoli (*Riforma Médicale*, 1892) record two cases in which the administration of antipyrin, in large doses, seems to have contributed largely to the ultimate recovery of the patients. It is true that chloral was given at the same time, but the authors do not judge that drug to have been the essential part of the treatment, for the spasms were only modified as long as the antipyrin was taken, and recurred when chloral alone was given. This is by no means the first case recorded in which antipyrin has been reported as successful in tetanus, and it may well be that, even if it be not actually curative, it does good by enabling the patient to live through what would otherwise be the fatal course of the disease, while the toxine is being eliminated by the ordinary channels.—*University Medical Magazine.*

A New Substitute for Cocaine.

The acetamide of eugenol—which is contained in oil of cloves—has recently been prepared; it occurs in crystalline form, and appears to enjoy the property of producing local anæsthesia in a very high degree. It may be used similarly to cocaine for this purpose, and, as it has no caustic action and is an energetic antiseptic, it may be found to be even superior to cocaine for minor operations on the mucous membranes.—*The Medical Age.*

OBSTETRICS

IN CHARGE OF
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The Induction of Premature Labor by Champetier De Ribes' Bag.

At the last meeting of the British Medical Association, Mr. Ernest Herman opened the discussion on the Induction of Premature Labor, and gave the following description of Champetier De Ribes' Bag, together with his experiences in its use *(British Medical Journal)*:

This is a bag with a tube attached to it. It is put into the uterus empty, folded up, and held in the grasp of a pair of forceps sold with it. The blades of the forceps are disarticulated, and withdrawn one at a time. Then water is pumped into the bag so as to distend it. When it is full the tap is turned, so that the water is retained; and then the bag is left in the lower segment of the uterus till it is expelled or pulled out.

The shape of the bag is that of an inverted cone, the apex of the cone lying in the internal os. It is made of waterproof silk, not elastic, so that it will receive a definite amount of water and no more. Its size is such that the os uteri must be fully dilated to allow it to pass out. It contains about seventeen ounces of fluid, and when full its base measures about three and one-half inches across.

The use of the bag is to dilate the cervix and lower segment of the uterus when it is desired to empty the uterus prematurely; or when in labor at term the natural agencies which should perform the first stage of labor fail. In English practice at the present time, the favorite way of doing this is by Barnes' fiddle-shaped india-rubber bags. I think this bag, devised by Champetier de Ribes, is a great improvement on Barnes' bags, and therefore have brought forward this communication.

The advantages of this bag over Barnes' are the following: (1) With Barnes' bags successive sizes have to be put in one after the other, and the introduction of each needs a visit from the doctor, and manipulations troublesome to him and disagreeable to the patient. One operation only is required with Champetier de Ribes' bag; when this is in its place, it dilates the cervix to the full extent without any need for further interference, and the doctor may leave the patient, trusting the nurse to send when pains become strong. (2) Barnes' bags are made of india rubber, which stretches when fluid is pumped in. Hence, the operator has no clear indication when the bag is full; and hence also, if the cervix is rigid, the part in the cervix remains unexpanded, while the part above, and especially the part below, bulge out instead. Champetier de Ribes' bag is made of inelastic material; when it is full no more fluid can be pumped in, and it does not alter its shape. (3) Barnes' bags are put in with a rod or sound in a little pocket at the side of the bag. This little pocket is very apt to give way. Modifications have been made in the bags by others to remedy this imperfection; but I have seen no way so satisfactory as the convenient forceps by which Champetier de Ribes' bag is put in. (4) It is not possible with Barnes' bags to get complete dilatation of the os. Champetier de Ribes' dilates it fully. (5) In the introduction of Barnes' bags the membranes are sometimes ruptured, and the presence of the bag in the lower segment of the uterus sometimes displaces the presenting head, making a natural into a transverse presentation. With Barnes' bags these are serious drawbacks, for, if these accidents have happened, there is much risk to the life of the child in turning and extraction. They may happen also with Champetier de Ribes' bag, but when it is used they are not important, for the bag completely fills the cervix uteri and retains the greater part of the liquor amnii, and when the work of the bag is complete the child can be at once turned and extracted without difficulty. (6) Barnes' bag partly dilates the cervix; but if pains are not provoked (and I have known this happen) when the bag is removed, the cervix may recontract. With Barnes' bag there is no way of accelerating labor if pains are weak. If Champetier de Ribes' bag be used, and the first stage is protracted by weakness and infrequency of pains to an undesirable extent, we can accelerate dilatation by pulling on the bag.

When folded up, the bag is rather thicker than a finger. Hence it cannot be put into a cervical canal that has not reached this degree of dilatation. Dilatation must be started in some other way, by a bougie or a tent, or by a dilator invented by Mr. J. W. Taylor, of Birmingham, and similar in principle to Champetier de Ribes', but smaller. Pinard has recorded forty cases in which Champetier de Ribes' bag was thus used to induce labor. In twenty-three dilatation was complete in from six to twelve hours; in seven it occupied from twelve to twenty-four hours; and in ten, between twenty-four and forty-eight hours. I have used it in four cases. (Mr. Herman then gave brief histories—results good.)

In these cases the duration of the part of the first stage of labor effected by the bag varied from six and one-half to forty-four hours. The long duration in Case 4 was owing to the absence of pains. In no case did there seem to be any ill effect from the bag, either from its introduction and rapid distension or from its continued presence in the uterus.

Dr. Herbert Spencer followed, and generally agreed with Mr. Herman. We abstract the following from his address:

My experience during the last few years of the induction of premature labor by the Krause method (that is, by the insertion of a bougie into the uterine cavity) is that, with antiseptic precautions, the method is free from mortality to mother and child, but that it is exceedingly wearisome for mother and doctor, the operation usually taking about three days. I have only once known labor to occur within twenty-four hours of the introduction of the bougie; in the majority of cases it takes from three to four days, sometimes five or six, and occasionally as long as ten days, in spite of the use of hot douches and the introduction of additional bougies.

I have employed Champetier de Ribes' bag for induction of premature labor in four cases of contracted pelvis, short notes of which I append. . . .

Champetier de Ribes' bag has a great advantage over the bougie in point of rapidity. The rupture of the membranes and separation of a portion of placenta, which sometimes occur, are of slight importance in this method of treatment, as the bag is a good substitute for the membranes, and the hemorrhage ceases when it is distended. The bag has one real disadvantage—that it displaces the head. This can usually be corrected by abdominal manipulations, and by removing the bag when labor is well advanced. In cases in which a malpresentation occurs, the full dilatation produced by the bag is a valuable preliminary to treatment.

Of other hydrostatic dilators, the best known in this country is Barnes' bag. This useful instrument I have on many occasions employed in placenta prævia and accidental hæmorrhage. For the purpose of induction of labor it is much inferior to Champetier de Ribes' bag, being very apt to escape into the vagina, and to produce œdema of that passage and to "blister" or burst. It also requires much more manipulation, as several sizes are necessary.

In order to obviate the difficulty of the escape of Barnes' bag, I have held it *in situ* by a thick sound, while dilatation was performed under chloroform, and, in this way, have succeeded in terminating the labor within a few hours. Used in this manner, however, it is not so gentle a means of dilatation as Champetier de Ribes' instrument. This has the great advantage of being a gentle, speedy, certain, and safe method of inducing labor and of producing full dilatation of the cervix. I consider it the most perfect instrument known to me for the induction of premature labor in cases of contracted pelvis.

In the discussion which followed, Dr. Robert Barnes observed that Dr. Herman's and Dr. Spencer's experience had been small, but certainly so far satisfactory. Dr. Barnes exhibited two drawings showing Champetier de Ribes' *ballon* (1887) and Barnes' bag (1860) in action. No. 1 showed the dilator contrived by Dr. Barnes in 1860. The first bag was pear-shaped, like Champetier de Ribes'. After various modifications he settled on the fiddle-shaped pattern, with a curved depression on the uterine end. The advantages of this model were: (1) That it was easy of introduction, either at once using the full size, or, if the uterine canal was too small at first, by using a smaller one as preparatory; the ordinary uterine sound served easily for the introduction; (2) the bag, expanding at both ends when filled with water, bore with even pressure upon the two rings of greatest resistance—namely, the os internum and the os externum; thus the entire cervical canal was expanded, offering free access for the forceps or for turning, or for the unaided passage of the child; (3) it secured the object desired with the minimum of force, and without displacing the relation of the parts of the child, since the ball of the head lodged in the hollow of the uterine end of the bag; (4) it dilated the cervical canal throughout, making it of equal calibre, or nearly so, with that of "Barnes' boundary line," which coincided with the equator of the child's head. Fig. 2 showed in position Champetier de Ribes' modification of Tarnier's "ballon." It had the following faults: (1) Difficulty of introduction; it was passed in by squeezing it in forceps, an awkward proceeding requiring sometimes an assistant; (2) its expanding action was spent mainly upon the os internum and lower segment of the uterus, leaving the os externum comparatively untouched; (3) it had the very serious faults of displacing the head, converting a natural presentation into a transverse or dorsal one, rendering the operation of version necessary to deliver. Since the "ballon" could only find room for expansion in the proper cavity of the uterus, the immediate effect was to put a sudden distending force upon the uterus to accommodate a body as large as the child's head. The first effect of this was, in most cases, to excite active uterine contraction which might be useful, but could not facilitate version; and it might, it was to be feared, although cases had not yet been reported, lead to rupture of the uterus. The experience as yet gained or published was but small, whilst the records published, and the wide testimony of practitioners from all parts of the world, left no doubt as to the safety and efficiency of Barnes' bags. Barnes' bag, properly chosen and adapted, was not liable to slip into the uterus or out into the vagina. In conclusion, Dr. Barnes could not help expressing his gratification at having invented a method of inducing labor which had been so largely adopted, and often modified, even to the extent of reinventing the original form which he had discarded as faulty. [How like Dr. Barnes this sentence is! In discussions such as this, the distinguished veteran seldom comes out second best.]

A CASE OF SYMPHYSIOTOMY.

At the December meeting of the Montreal Medico-Chirurgical Society, Dr. J. A. Springle gave the following history :

Mrs. M.L., primipara, aged 25, of Irish parentage, gives the following history : She has been healthy up to her marriage, four years ago ; since then, to the date of her pregnancy she has suffered from what a local gynecologist pronounced to be pyosalpingitis. However, she became pregnant, and appeared to do well.

On the 4th inst. slight labor pains were experienced, and the liquor amnii began to flow away. I saw her on the morning of the 5th, and labor was then active, but the os uteri not fully dilated. The pelvis was found to be generally contracted. At 3 a.m., dilation being complete, an effort was made to extract with forceps, but without success. At 9 a.m. Drs. Lockhart and Kenneth Cameron saw the case. The uterus was then tightly contracted upon the child, whose head was tightly filling the inlet. It was easily seen that the pelvis was too small to extract, and symphysiotomy was decided upon.

A median incision over the symphysis, extending three-quarters of an inch above this and passing slightly to the left of the clitoris, was made down to the bone. A vulcanite rod in the uretha drew it over to the right, and depressed it away from the incision. Above the pubis the incision was deepened until the loose cellular tissue was reached. The left forefinger was then passed behind, and the position of the urethra being ascertained the symphysis was cut through. The two sides sprang apart, leaving an interval of over one inch. A pad was placed over the wound, and the fœtus rapidly delivered with forceps by Dr. Lockhart, proper support being given latterally to the pelvis. The child was in good condition, and not disfigured by the instruments.

The total time was one hour and a quarter from the commencement of the operation until all dressings were completed.

Both mother and child have done well since. There is considerable pain about the left sacro-iliac synchondrosis, due, I believe, to rupture of the anterior ligaments.—*Montreal Medical Journal.*

[This operation, first performed by De la Courrue in 1654, soon fell into disuse ; but was revived by Sigault in 1768. After a short time, it was again abandoned. In 1881 it was again brought before the profession in Italy by Murisdin, who gave reports of several operations performed in Naples. After a time it was done by Leopold, Freund, and others, and became recognized as a legitimate operation on the continent, but not in Great Britain. Dr. Robert P. Harris, of Philadelphia, read a paper on the subject at a meeting of the American Gynecological Association, September 21st, 1892, and expressed his approval of the operation. Since that date the operation has been performed successfully three times in the United States. Dr. Springle's symphsiotomy is the first and only one performed in Canada, so far as I know. Smylie, of Dublin, has recently done the operation in the Rotunda.—A.H.W.]

Tubal Moles and Tubal Abortions.

Sutton (in the *Medical Press*, 1892, No. 2793) describes, in a well-illustrated paper, tubal moles. They differ from uterine moles in several particulars: The uterine mole is more or less spherical; the amniotic cavity is of fair size, and occupies the centre of the mole. The embryo may or may not be present. It is very misshapen when recognized, and the umbilical cord is often œdematous.

A tubal mole in its early stage is spherical, but later becomes ovoid; in most cases the amniotic cavity is excentric. The amnion is easily ruptured, and permits the escape of the embryo. This explains the difficulty of finding the embryo where the mole has been discharged through a rent in the wall of the tube, or through an enclosed ostium with hemorrhage. The mole is found in the clot, and the embryo can be found, if all the blood be collected and the clots carefully washed. In hard, firm clots, in which no amniotic cavity is recognized, the specimen must be cut in sections and examined for villi of the chorion. This part in sections has clusters of circular bodies occurring in groups. Under a low power, they show an external layer of epithelial-like cells, with irregular cells in the centre. Under a high power, the epithelium becomes distinct. The presence of a tubal mole is decisive proof of pregnancy. Blood and blood-clots, however, may be found in the tube when pregnancy is absent. Accurately speaking, the term "hæmatosalpinx" should be applied to a non-gravid Fallopian tube distended with blood secondary to occlusion of the abdominal portion of the tube.

By "tubal abortion," we understand the discharge of an ovum through the ostium into the peritoneal cavity, or by rupture of the tube when the ostium is enclosed. Hemorrhage is usually more abundant in total abortion than where the tube ruptures and the ovum escapes into the broad ligament. The uterine decidua is usually discharged at the time of the tubal abortion. Sutton concludes his observations as follows:

"(1) The transformation of a tubal ovum into a mole or apoplectic ovum is beyond doubt. (2) The majority of the specimens described as examples of hæmato-salpinx are gravid tubes. (3) Rupture of a gravid tube and tubal abortion are the common causes of pelvic hæmatoma. (4) Mesenteric rupture of a gravid tube is a common cause of pelvic hæmatoma. (5) To affirm that bands of fibrin resemble chorionic villi indicates great want of histological knowledge. (6) Every clot of blood found in a Fallopian tube is not a tubal mole."—*American Journal of the Medical Sciences.*

PELVIC DERMOID CYST REMOVED FROM A WOMAN SIX MONTHS PREGNANT.

Dr. Wm. Gardner, at the October meeting of the Montreal Medico-Chirurgical Society (*Montreal Medical Journal*), exhibited the specimen and related the following history: Patient is married fourteen years; has had three full-term children, the last seven years ago. In December, 1890, the tumor was diagnosed and operation advised. Menses absent since April 2nd, 1892. Six weeks ago, when already pregnant to four or four and a half months, had a severe attack of pelvic pain, requiring full doses of morphia. When examined, it was discovered that the tumor was adherent to the floor of the pelvis. Operation was done on October 1st. The tumor was of the left ovary, and being successfully shelled out from its bed of adhesions in the floor of the pelvis was then easily brought to the level of the abdominal incision and tied off, catgut ligature being used. The size of the tumor was that of a medium orange. It was filled with sebaceous matter and hair, and also contained one tooth. The cyst wall contained some leathery blood-clot. The recovery was smooth, and without any interference with the course of pregnancy. The nature of the tumor and the fact that it was adherent in the pelvis rendered its removal an absolute necessity to save the patient from very great danger from the passage of the child during labor.

SURGERY

IN CHARGE OF

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SHOCK AND ITS TREATMENT.

Kottmann (*Wiener med. Presse*) states that the most important signs of shock are weakness of the heart, faint respiration, skin pale, and covered with cold sweat; face drawn out, sunken eyes and livid lips; consciousness remains; insensibility reduced. Shock appears when certain very sensitive organs, as testicles, bones, or bowels, have been subjected to contusion or other serious injury. Shock may occur from hemorrhage, and is then associated with functional changes in the body of which there are no *post-mortem* evidences. Two theories are advanced: the first defines shock as a reflex paralysis of the heart and vessels caused by the trauma. According to the second the injury causes, reflexly, exhaustion of the medulla oblongata and of the spinal cord, and, as the nerve centres are affected, there is debility of the heart and respiration. The fever which accompanies shock is, according to Kottmann, the consequence of trauma. The substances causing the fever are here chemical, and not bacterial, are freed from normal tissue matter by the injury, and include hæmoglobin, febrin ferment, and similar elements. The author objects to confounding shock with debility due to hemorrhage. In the latter there is rapid pulse, quick, deep, panting respiration. In shock the patient does not present the evidences of cerebral irritation, noises in the ears, affected vision, palpitation, yawning, and even convulsions. In severe cases of shock the usual remedies—alcohol, ether, caffeine, and camphor—may be used without relief. The similarity in appearances resulting from hemorrhage and from shock induced Kottmann to use salt-water transfusion in four cases, with good results. By the neuro-pathological theory the explanation is that the effect of the salt solution is to stimulate the centres with which it comes in contact, and with increased arterial pressure the central nervous system would receive more blood and recuperate more quickly. If the hæmo-pathological theory is accepted, the explanation is even more simple; the salt water would fill the empty heart and vessels, and the hydraulic requirements would be fulfilled while the blood in the distended abdominal vessels was being restored to the circulation. Patients suffering from shock often require severe operations, especially the amputation of members. Experience shows that chloroform anæthesia in these cases is attended with unusual danger; which is less with ether, which acts as a heart stimulant. —*Nashville Journal of Medicine and Surgery.*

[In three well-marked cases of shock, we recently employed atropia sulph., with apparently the best result. The first case, a man twenty-five years of age, was struck on the head by a locomotive tender; fifteen minutes later he threatened to become pulseless before the atropia could be injected, but responded promptly and thoroughly. The other two had received blows in the neighborhood of the stomach, one in falling through several stories of an elevator shaft, and the other in being thrown against a projecting log while coasting. Seen, the one six and the other eight hours after the accident, both presented the symptoms of shock in a marked degree; promptly after the injection of the atropia the color improved, and both made good recoveries. In surgical shock, especially on that following abdominal section for the removal of large growths or accumulations, where we have the shock of the operation proper intensified by that produced by the anæsthetic, the hemorrhage, and the lessened abdominal tension, hypodermic injections of strychnine, repeated every three hours, may with advantage be substituted for the atropia, or the strychnine and atropia may be injected in combination for the first two injections, and then the strychnine continued alone until the patient has reacted fully. In the Johns Hopkins Hospital, where this hypodermic treatment is carried out with the utmost care, we have seen some surprising recoveries.—L.M.S.]

A Case of Cerebral Surgery.

W. C. Dugan, M.D., reporting a case of cerebral surgery, says that a lady about fifty years of age had great pain in the head for eight or ten months, and it has steadily increased. She has been treated by a number of physicians on various lines, and she has grown steadily and rather rapidly worse. Her hearing was at first but slightly involved, but latterly to such an extent that she could hardly hear at all. During the last few weeks I am confident there has been marked impairment of intellect.

I saw her for the first time several months ago, and then did not see her again for about two months. Meantime her physician asked Dr. Dabney to make an examination, and he reported double-choked disk, the right more marked than the left. Later she had partial paralysis of the right leg, twitching of the right side of the face, and incomplete loss of sensation of the right arm.

Diagnosis of tumor was made, its most probable location being in the left side, about the upper part of the fissure of Rolando. She had two convulsions during this time, whether unilateral or bilateral I am unable to say, but they were rather severe, and were followed by considerable stupor. Exploratory operation was advised for the purpose of finding the tumor, the understanding being that, if it could be removed, it would be done.

A very large semi-circular incision was made over the left parietal bone, the flap turned down leaving the periosteum intact. After going through the periosteum and turning it back separately, we took a large-sized trephine, expecting to take out a large button, but found it slow work, the skull being very thick. I then decided to take out a smaller-sized button. The bone was removed and the membrane bulged up almost half way through the skull, very tense, and feeling almost like wood. I then took a chisel and mallet and cut out the entire two inches of bone, the size of the original trephine. The tension was so great that the membranes came up almost on a level with the outer part of the skull. The dura was then incised, and, to my very great surprise—and perhaps I should say, my chagrin—the brain just swelled up, almost like quicksilver, through the incision in the dura. There was a mass of cerebral tissue, as large and thick as your finger, pressed through the opening in the dura, and the constriction was so great, and the tension from within so much, that it produced intense engorgement. The dilemma was not one to be envied, I assure you. I did not know how to close the dura. Knowing that there must be something to account for the great pressure, I explored with a hypodermic needle and found no fluid. I then took a groove director and passed it down to the ventricle, and found a large quantity of fluid in the left cavity—at least three ounces, and perhaps more. As the fluid flowed through the groove, the brain settled back in its place, and at the conclusion of the aspiration I was able to pass my finger around the dura, palpating the brain so as to ascertain whether there was a tumor anywhere. No tumor was discovered. I then thought best to pass the groove director through the septum to the other ventricle to see if any fluid existed there. This was carefully done, but no fluid was found. The dura was then closed and the scalp sutured, no drainage being used, and the patient dressed and put to bed. She reacted well from the operation, there being no shock.

She has had some little trouble since with loss of speech, but she is able to articulate some sounds distinctly and intelligently. She has suffered very little pain since the operation, and has been doing very well. Instead of finding a tumor, we discovered an accumulation of fluid in the left ventricle, the pathology of which I am unable to give. The fluid seemed to be perfectly clear, but whether it was tubercular or otherwise I am unable to say. The future of the case is purely one of conjecture; I am not prepared to say what the outcome will be. Her physical condition is good; the operation was done one week ago, and she sat up to-night and is suffering no pain. The paralysis has been relieved, but her hearing has not returned. I cannot help believing that the trouble will return, and that the end is not very far off.

The paralysis was relieved immediately after the operation. Sensation now seems to be hyperæsthetic. Before the operation, as she could not hear, her family would write messages on paper and she would look at it for a long time, and eventually she would understand it. She would wait four or five minutes before answering a question, showing that her intellect was greatly impaired.

I left the bone out for two reasons. First, it could not have been replaced, as, after taking out the button with the trephine, the opening was considerably enlarged with the chisel; further, I would have left the button out anyway, so as to have the advantage of that amount of lack of resistance, and, in event of the fluid reaccumulating, it can be aspirated with less trouble. The opening left in the skull, as nearly as I can judge, was about two inches in diameter. The only hemorrhage experienced was from separation of the dura. If I had not explored the brain, I would never have been able to have brought the dura together.—*Medical and Surgical Reporter.*

The Treatment of Fractures of the Lower End of the Humerus, and of the Base of the Radius.

Dr. John B. Roberts has made a sort of collective investigation of the practice of some ninety American surgeons in the treatment of fracture of the lower ends o the humerus and radius, and finds considerable diversity in their methods. Quite a number agree with him in treating fractures of the lower end of the humerus with the elbow in an extended position, but the majority hold to the flexed position, for various reasons, such as a fear of ankylosis, or better retention of fragments. Roberts advocates the extended position in all cases because of the danger of losing the "carrying.point" otherwise. The majority also use early passive motion within four weeks, and nearly all expect to obtain "good use of the joint." About one-tenth of the number (nine out of eighty-eight surgeons) treat fractures of the lower end of the radius frequently without any form of splint whatever, agreeing with Dr. Roberts, who employs a wristlet of adhesive plaster wound around the arm according to Moore's plan. Sixty-eight out of the eighty-eight used passive motion within four weeks. Roberts believes in leaving the elbow-joint at rest until consolidation has taken place, and encouraging patients with fracture of the lower end of the radius to use their fingers voluntarily from the first; active instead of passive motion. It is disappointing to see how many men are still trying to prevent ankylosis of the elbow by passive motion, when it is now so clear that such attempts are more likely to do harm than good, and also to find so many using apparatus on the fracture of the radius which compels them to employ passive motion here also, when active motion can be so readily maintained throughout. It appears to the reviewer that Roberts does not dwell sufficiently on the radical difference between the two parts, the wrist being a joint where motion is likely to be limited by adhesions of tendons in their sheaths, while in the elbow there is no such danger; hence for the former motion (active) is advisable from the first, but for the latter it is unnecessary.—*International Medical Magazine.*

Unjust Condemnation of Catgut.

A number of articles, abstracts, and quotations have recently appeared in several prominent journals condemning the use of catgut as suture material. One of these, by Paul Paquin, M.D., Director of the Pathological Laboratory of the Sanitarium at Battle Creek, Mich., was very decided in its tone of warning against catgut in surgical practice; yet it was based upon experiments absolutely valueless from the standpoint of the modern surgeon whose ways are ways of cleanliness.

Whether or not the experiments of this investigator were carefully con ducted, I have no means of knowing: but I am sure from observation—both experimental and clinical—that the deductions are absolutely incorrect and wholly misleading.

All instruments are boiled in a five per cent. solution of carbonate of sodium (bi-carbonate will not do) for twenty minutes just before using; and the hands are carefully scrubbed and run through the permanganate, oxalic, and bichloride solutions just as was the field of operation. By these precautions and with sterile gut, all danger of suppuration is avoided.

I am sure that any surgeon will be convinced of the superiority of catgut to all other suture materials in proper place, if perfect antiseptic precautions be taken and good catgut be used. Carbolized gut is totally unreliable.

I prepare my own catgut thus: Good, strong gut, free from flaws, is washed in soap and water until all the "kink" is out; it is then dried with a towel, wound loosely round the fingers, and dropped into a jar of sulphuric ether, C.P., in which it lays for forty-eight hours; it is then transferred to a jar containing oil of juniper, in which it floats from two days to a week, according to size; it is then wound—with fingers surgically clean—on spools and kept in alcohol, ninety per cent., and oil of juniper, ten per cent., carefully sealed This is perfectly safe.—*International Journal of Surgery.*

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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THE KRASKE METHOD OF EXTIRPATION OF THE RECTUM.

Joseph B. Bacon, M.D., in the *North American Practitioner*, describes the above operation, and relates a case in which he had successfully performed it.

The patient, Mr. W., aged 34, druggist, married, of a constipated habit, first noticed trouble in his rectum in October, 1891, when at stool a severe hemorrhage occurred; no occurrence for three months, when, after taking a strong cathartic in December. a second profuse hemorrhage occurred. From this time he began to have obscure pains in his back, slimy discharge from his bowels, streaked with blood, and shooting pains about the anus and a more obstinate constipation. Symptoms gradually grew more annoying, until in March, 1892, he consulted his physician. He was told that stricture, probably malignant, existed, and was advised to see a surgeon. I examined him for the first time about the middle of April, and found a stricture of the rectum caused by a malignant growth, involving the sphincters and four inches of the rectum, and only dilatable sufficient for my finger to explore the growth.

An immediate operation for the total extirpation of the anus and rectum was advised, at the same time assuring the patient that this relief would probably only prolong his life for from six months to two years.

The operation was performed in May, when five inches of the rectum, including the anus, was removed.

After the patient was partially under the anæsthetic (ether), I forced my index finger through the stricture, and with the aid of an irrigator succeeded in breaking up the hard, impacted fæcal mass, and by repeated irrigations, lasting for an hour, emptied the rectum and colon. I will here state that the complete evacuation of the colon, even at a great loss of time during anæsthesia, is very necessary before operating; otherwise the necessary constipating of the bowels for several days after the amputation of the gut will be, as a rule, impossible. The patient was now placed upon his right side and the perineal and sacral region carefully cleansed, and every means employed for an aseptic operation. An incision was made beginning at the third sacral vertebra, and extending in the median line to the anus. The soft parts were dissected loose from the two lower sacral vertebræ and coccyx and below down to the rectum, and the left sacrosciatic ligament was detached from the sacrum. The coccyx was now removed and a chisel was used to cut away the left half of the sacral vertebræ, care being taken not to wound the third sacral nerve, it being the main support to the bladder. At this stage of the operation the rectum and cancerous mass was exposed, and all bleeding vessels were carefully ligated.

Beginning now at the lower end of the wound, I dissected the mass away as follows: Inserting one blade of a large pair of curved scissors into the wound at a point near the anus, it was pushed laterally into the left ischiorectal fossa and forward to near the median line, and the intervening tissue severed; a similar incision was made around the right side, thus completely encircling the anus, except the median line near the urethra.

An assistant now inserted an urethral sound into the bladder, to be used as a guide in dissecting the tumor from the urethra, and prevent its wall being wounded. The anus and lower end of the rectum now being freed from the surrounding tissue, a strong pair of vulsellum forceps were used to hold the tumor firmly, and the levator muscles were cut away at a safe distance from the cancer. The peritoneal cavity was then opened and five inches of the rectum removed, leaving the seminal vesicles bare of bladder and small intestines exposed.

The rectum above the cancer, together with the lower end of the sigmoid, was dissected loose, drawn down and firmly ligatured into the upper angle of the sacral wound by interrupted sutures of heavy silk, care being taken to have each suture catch up at least one-half inch of rectal tissue, sutures passing through the entire gut wall to prevent their tearing out before union took place. All bleeding vessels were now ligated, and sterilized hot water applied to the wound until capillary hemorrhage ceased. The lower end of the rectum was now packed with absorbent cotton to prevent any of its contents escaping into the wound.

Beginning now with long strips of iodoform gauze, the whole pelvic wound was carefully packed from before backwards to prevent any fæcal discharges entering the peritoneal cavity. This dressing was not changed until the end of five days (the bowels having been constipated by opiates), when the peritoneal cavity was found securely closed in with healthy granulations, and the wound was thus secure from any future infection from fæcal discharges. Daily dressing of the wound was required for three weeks, when everything had granulated around the gut, and the patient was able to sit up in bed. It is now four months since the operation.

He is well nourished, has no pain, appetite good, and there is no symptom of a return of the growth. He has perfect continence when bowels are constipated, but of course incontinence when the fæces are of a diarrhœal character.

The gut is firmly united with the tissues at the upper sacral end of the incision, and the mucous membrane appears healthy. On pulling aside the buttocks somewhat firmly, the bowel is seen filled with solid fæces; this he removes daily by warm water irrigation, and completes his toilet with a large cotton pad. I shall have him fitted with a truss pad as invented by Hochenegg, and he can go about his work as usual. The age of this patient, thirty-four, is unusual for cancer, and well illustrates how necessary it is never to take a diagnosis for granted, but make a careful search for symptoms. Had such been done for this man after the first hemorrhage, his chances for a permanent cure would have been much better.

Kraske's claims for this operation are:

(1) It enables one to remove tumors that are too high up for any other method, and considered inoperable.

(2) It enables one to secure all the cut or torn blood vessels with a certainty.

(3) Where disease is limited to tissue above sphincters, the disease can be cut away and the ends of the gut brought together again, and sphincters preserved with continence.

Some of the dangers in doing Kraske's operation are:

(1) One must avoid wounding the urethra, seminal vesicles, and qladder.

(2) In removing a part of the sacrum one must be sure that he does not destroy either of the third sacral nerves, as they mainly control the bladder, and cutting them will cause vesicle paralysis.

(3) He must use care in order to avoid wounding the ureters.

If the ureter is severed, Dr. Fred. Bryon Robinson suggested that it may be turned into the rectum. But in his experiments upon dogs he found it generally resulted in a fistula, in which case the urine from each kidney can be examined ; and if the kidney connected with the fistula is secreting the smallest amount of urine it may later be extirpated.

Some of the difficulties in the performance of Kraske's operation may be overcome by carefully laying the rectum bare in making the posterior incision, and then inserting the finger around the rectum above the sphincters and freeing it from the surrounding tissues above and below. This procedure will enable one to push away the ureters, seminal vesicles, bladder, and urethra in many cases.

Treatment of Syphilis by Dog's Serum.

Cotterell, in the *English Medical Press*, reports that he has repeated the experiments of Tommasoli in the treatment of secondary syphilis by means of hypodermic injections of serum prepared from the blood of lambs and oxen.

He gives his own experience as follows: In August of this year I prepared some dog's serum, and had the opportunity of trying it upon two patients of the Lock Hospita who were suffering from recent syphilis. The results obtained were good as far as the cases were followed up, the rash and other manifestations quickly disappearing under the influence of the injections. Unfortunately I have lost sight of the patients, due probably to the injections producing a somewhat painful swelling, and partly also due to the fact that they are better, and have in consequence not returned to report themselves.

The *rationale* of the treatment appears to be the marked bactericidal action of freshly-prepared serum ; and it is essential that the serum should be used when perfectly fresh, otherwise the results obtained will be disappointing.

I have noticed, as other observers have also done, that the first injection or two will send the temperature up slightly ; but it quickly becomes normal, and is apparently of no moment. There is also occasionally formed at the seat of the injection a localized swelling, which is tender to touch, and the skin over it is slightly injected ; but suppuration never takes place, and the tumefaction soon subsides. Now and then the injection may be followed by an urticarial rash, which, as far as I have seen, does not spread very far from the seat of the injection, and soon disappears.

The serum was injected into the back in doses of two cubic centimetres twice a week with a Koch's hypodermic syringe, which was well sterilized, and it is a safe precaution to thoroughly wash the skin over the proposed site of injection with 1 in 20 carbolic lotion.

The method of preparing the serum is as follows :

The blood is taken aseptically from the carotid artery, and allowed to flow into a large sterilized test-tube, at the bottom of which is a little oxalate solution to prevent coagulation. When about three parts filled the tube is plugged with cotton-wool, and the tubes put in a centrifugal machine, by which means the corpuscles and plasma are separated. The plasma is then decanted off, and allowed to clot, from which the serum separates, and can be drawn off into small sterilized test-tubes, which are plugged with common wool ; or, if required to be transported, it may be drawn into sterilized glass pipettes, the ends of which can be sealed in a gas flame.

Afterwards a necropsy is performed on the dog, and serum only retained if the animal is perfectly healthy.

I have had a small electric motor made, attached to a turn-table, which forms a very convenient apparatus for centrifugalizing small quantities of blood, as it can be attached to an ordinary wall plug where the electric light is laid on ; and as it is essential to use the serum freshly prepared, one only makes it as required.—*Epitome of Medicine.*

Caisson Work in Bladder Surgery.

At a meeting of the Medical Society of London, Mr. Harry Fenwick made a communication on what—borrowing an engineering term—he termed "caisson working" in bladder surgery. Th method he employed was as follows : The patient was nearly always placed in the Trendelenburg position. Rectal bags were not used. The bladder was then opened above the pubes, the opening being made just large enough to admit a thin white porcelain cylinder, which was sunk, without allowing any of the water in the bladder to escape, on to the spot where he had previously ascertained, by the use of the electric cystoscope, that the tumor was placed. The cylinders were of various lengths and sizes, according to the thickness of the parietes, the depth of the bladder, and the size of the area to be operated on (in his first case he had used a Ferguson's speculum). A Jacques catheter was placed in the cylinder when it rested on the bladder, and siphon action established by suction from a syringe ; the water was thus run out of the caisson, and the tumor seen, dry and bloodless, at the bottom. By throwing in a beam of electric light by means of Dr. Washington Isaac's incandescent "search-lamp," it became possible to remove the growth by forceps, with extreme accuracy and thoroughness. The method had proved of special value in the early stages of benign tumors, where the growth was often very small—also in removing small, sessile, secondary splashes of villous growth, which were often left behind untouched or unrecognized by the finger after the main piece of the tumor had been wrenched or scraped off. If vesical growths were operated on earlier, the mortality of the actual operation would diminish, and even in epitheliomatus degeneration of the mucous membrane a cure might in some instances ensue. Mr. Fenwick said he based this belief upon an experience of over 100 cases of tumor of the bladder. The method could be used in bladder growth for curetting or cauterizing definite catarrhal or tuberculous ulcerations, for incising the mouths of sacs of encysted stones, and for marking out the lines of enucleation of the intravesical growth of the senile enlarged prostate. It was unfit for contracted bladder. He recommended the procedure on the grounds that only a small incision was necessary; that it avoided bruising and tearing of the bladder by the continual passage of fingers, etc., through the wound and bladder incision; that not only the main growth, but the smallest patches of primary or secondary growth could be seen and accurately treated by shifting the caisson from place to place; that the base of the growth could be cauterized by means of a galvano-cautery point with safety and certainty, and because bleeding could be easily arrested before the patient left the table. —*Medical Record.*

TREATMENT OF CYSTITIS BY MEANS OF INTRAVESICAL INJECTIONS OF AN ETHEREAL SOLUTION OF IODOFORM IN OIL.

In the treatment of both acute and chronic cystitis, the author advocates the use of a solution consisting of one gramme of iodoform dissolved in seven grammes of sulphuric ether, to which seven grammes of olive oil are added. This is injected into the bladder, and allowed to remain as long as possible. One gramme of iodoform is completely dissolved in five grammes of sulphuric ether, the additional ether being used to compensate for evaporation. The oil is added to modify the irritation produced by the ether on the vesical mucous membrane. During treatment the patient should be required to abstain from beer and all other fermented and alcoholic liquors, and live as much as possible upon a milk diet.

Of the cases treated, the acute, all of which were of gonorrhœal origin, showed the greatest improvement. In regard to the chronic cases, it is rather difficult to draw a parallel between this method and the use of an iodoform emulsion; but from a purely theoretical standpoint, the solution of iodoform in ethereal oil ought to act more promptly and efficaciously, applied to an organ like the bladder, where remedies can only remain in contact with the diseased areas for a limited time.

It is not claimed that this is a universal remedy for cystitis, but in many cases (eleven out of twelve) it acts in a very efficient manner. It must be decided in each individual case as to the amount and the frequency of the injections, whether they are to be given every day, or every other day, or only at intervals of several days. Internal medication and strict diet will be found to greatly enhance this method of treatment.—*Dr. Okev-Blom, Finland, in Ann. d. Mal. d'Org. Genito-Urin.*

[In two cases (chronic) in which the above treatment was adopted, a marked improvement was manifested. Other treatments had been used, including iodoform emulsion. The pain was considerable, but not sufficient for the patient to object to a second application.—E.E.K.]

Attenuation of the Virus of Syphilis.

Pellizzari (*Giorn. Ital. delle Mal. Ven. e delle Pelle*, September, 1892), believing that syphilis is due to a specific parasite, and arguing from the analogy of other infectious diseases, has been led to think that this parasite secreted during its growth a substance inimical to itself. He became convinced that a healthy organism, receiving little by little the toxic products of the syphilitic virus, would acquire either complete immunity or a relative resistance to subsequent infection. He further holds that some of the manifestations of syphilis are due to a parasite, while others are the effect of the chemical products of the growth of such a parasite, and that if at one time one could artificially increase the amount of this poison in the patient, and at another time aid its rapid elimination, one ought to be able to obtain a true parasitic effect and consequent attenuation of the disease. He began to put the idea to the test in May, 1892, injecting the serum obtained from the blood of a patient suffering from the tertiary stage of syphilis into one in the active or malignant stage who showed intolerance of mercury. He has since adopted the same plan in a considerable number of cases, making in all about 200 inoculations, principally with serum sterilized by means of a d'Arsonval's filter. The serum is not always drawn from cases in the tertiary stage of syphilis, but sometimes from those in the active eruptive stage. It has always been given subcutaneously. Patients with primary lesions have been selected for these inoculations, and treatment has been commenced as early as possible. While not yet committing himself to any absolute statement as to the effect of the injections on the course of the disease, the author is disposed to think that in most instances there has been a diminution of the primary induration, with a lessened tendency to glandular enlargement and a shortening of the secondary eruptive stage. The dose employed has been, for each injection, from ½ to 9 c.c., and the injections have not been repeated more frequently than every second or third day.—*British Medical Journal.*

A Peculiar Case of Prostatic Concretions.

At the section on genito-urinary surgery, in the New York Academy of Medicine, Dr. E. L. Keyes presented a large number of prostatic concretions, like millet-seeds, which he had removed from a man 45 years of age. The man suffered from constant dribbling of the urine, and the urethra was always in a purulent condition. At night he suffered less than by day. He was made to pass his urine in two parts, and both parts were found to be purulent. A catheter was then introduced into the bladder, and through this perfectly clear urine flowed; the residual urine was also clear. This located the pus in the prostate. Dr. Keyes said he did not search the man for stone, as he had no symptoms of it. A central perineal incision was made and the finger introduced, and an abscess cavity in the prostate discovered. To the finger it felt like a rotten raspberry, and this seedy material was scraped out with the finger nail. The opening of the abscess was enlarged, and the entire cavity thoroughly scraped. The perineal opening was allowed to close after three weeks. There is now no more residual urine, and no dribbling from the urethra, and the man will no doubt get entirely well. He may have some trouble, however, owing to the fact that the anterior portion of his prostate was destroyed, although the mucous membrane was left.—*Journal Cutaneous and Genito-Urinary Diseases.*

PEDIATRICS

IN CHARGE OF

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Relation of Rheumatism and Chorea.

Dr. Jacobi, speaking on this subject, says: The subject is an extremely difficult one, particularly for the reason that a diagnosis of acute rheumatism is not so frequently made in little children as it ought to be, and a good many of the cases in which there is heart disease without a history have been rheumatic. We find a great many cases of fully developed heart disease in little children of six, eight, ten, twelve years of age, disease that must have a cause. Congenital heart disease is seldom seen at that age. Children suffering from it die mostly before they are a year or year and a half old. All the cases we see in later life, with very rare exceptions, are acquired, and the cause of most acquired endocarditis is rheumatism. Very few cases are excepted ; so, then, there must have been in nineteen out of twenty cases, where there is endocarditis in later life, rheumatism. It has been stated, particularly in the last statistical report, that there are a great many cases that have reported some pain which he has not taken for rheumatism. Why not? Indeed, many ill-defined pains of little children, most of the so-called growing pains, are of rheumatic origin. Acute rheumatism in infants and children is liable to yield but little swelling, and sometimes but little pain.

Decided, positive cases of rheumatism with endocarditis, that cannot be doubted at all, will frequently be found attended with very little pain about the joints, very little swelling, and sometimes not even very high fever. Sometimes the endocarditis comes very early, sometimes late. At all events, endocarditis is very frequent. I am certain a rheumatic endocarditis attending even a mild attack of rheumatism is more frequent in children than it is in adults. We see a great many cases in which no diagnosis is made, simply because the symptoms are frequently but slight.

I remind you of the fact that only ten or fifteen years ago it was stated in the text-books all around, and one copied it from the others, that acute articular rheumatism was almost unheard of in little children. Now that is certainly not true. Nowadays you can read in the text-books that it is by no means so uncommon.

I remember quite well that when I wrote my first paper on rheumatism in Seguin's series some seventeen years ago, and pronounced the same facts that I have given expression to now, those expressions were received with a great deal of distrust. Since that time I believe all of us have seen a good deal of rheumatism in small children, therefore I believe there is much more connection between chorea and rheumatism than is sometimes assumed.—*Archives of Pediatrics.*

TREATMENT OF INFANTILE SYPHILIS.

In treatment, I have fallen into a habit of using what proved good. Inunctions of oleate of mercury for infants, with mixed treatment to the mother, if nursing. Older children, especially in late manifestations, were given mercuric chloride in doses ranging from 1-120 to 1-32 of a grain, according to age. Mercury we find lauded in all forms. Calomel, or gray powder, is easily administered, but at times proves too laxative unless checked by an opiate Inunctions of two per cent. of oleate of mercury or the official ointment are better than internal medication. Frequent and prolonged hot baths help elimination, but are neither advocated nor used enough in these cases. Judicious feeding and general tonics must not be forgotten, for the evil is only removed by constant and long-continued vigilance.—*Dr. Stowell, in Archives of Pediatrics.*

A Unique Case of Uvulitis.

A little child, but ten months old, was brought to the office by the frightened mother, who thought that a tumor had suddenly appeared in the baby's throat. The following history was elicited : The child was apparently well up to within two hours ; since then has been troubled with an irritating, exhausting cough, recurring every few seconds, and attended with considerable gagging. For the past half-hour a small red mass would show itself between the child's lips, particularly after an unusually severe coughing spell attended with gagging. There was inability to nurse or swallow, every attempt increasing the distress of the little patient. Exhaustion marked. An examination of the throat revealed, without any trouble, an elongated, reddened, and œdematous uvula. The mass measured about an inch in length, the lower globular portion about one-half inch in diameter, paler in color, the increase in size being due to œdema ; the surrounding parts normal.

The uvula was punctured with a needle in half a dozen places ; chlorate of potash, with small doses of opium, given internally ; cold applications about neck ; ice pills internally. Decided improvement in the evening. The following morning the uvula was less swollen and œdematous, and about one-third original size. On the lower and posterior aspect, a diphtheritic deposit could now be perceived. Under the internal use of tr. fer. chlor. in small and repeated doses, with nasal injections of a weak salt solution, the case went on to rapid recovery.—*F. Huber, M.D., in Archives of Pediatrics.*

Diet in Rickets.

Dr. Jacobi, in his clinical lectures on pediatrics, says : In selecting food for such a child we must not take our own habits as a guide, for many of us eat too much and of more things than is necessary. If most of us would reduce our diet one-third, we should be better off. Children, as a rule, eat very simply and uniformly, and thrive best when they are allowed so to eat. A child of that age (four years) might have a piece of beef or mutton once a day ; it might have one egg a day, in some shape or other, but not hard; it might have a pint to a quart of boiled milk; it might have some barley, rice, oatmeal, or farina with the milk—and that is all it would want.

A baby fed in that way will thrive. Those babies that are costive might have more oatmeal; those that have a tendency to diarrhœa might have more rice or barley with their milk. Fruit will do no harm to older children, particularly boiled fruit. A piece of orange in the morning or after meals, a piece or two of sugar in the course of the day, or plain candy, frequently is not only pleasant but useful. But all that depends on the condition of the stomach and general state of the baby. In a case like this, we must try to counteract the tendency to fermentation in the intestines. Resorcin, or naphthalin, or salol, or salicin, might be useful, or large doses of bismuth might be given from time to time. If you should give the baby naphthalin, he probably would object because of the bad taste. Resorcin is easily taken; it dissolves readily. Bismuth has no taste at all. This baby might take, an hour after each meal, three or four grains of subnitrate or subcarbonate of bismuth with a half or two-thirds of a grain of resorcin. If there were any tendency to diarrhœa, I should add to that some prepared chalk; if any tendency to constipation, add two or three grains of calcined magnesia.—*Archives of Pediatrics.*

The Care of the Nasal Passages During Childhood.

Strangways, W. F. (*Physician and Surgeon*, 1892, xiv., 436), says: The care of the nasal passages in childhood is greatly neglected, and the writer emphasizes the following facts: First, and very important, is the fact that every cold has a tendency to leave some chronic inflammation. Second, and very important, is the fact that every child which takes cold in the head easily or frequently suffers from some form of chronic rhinitis, which should be treated and cured, and until such treatment is given the child will be liable to take cold from every slight cause. Third, it is very important for us to remember that the lumen of the nasal passages in childhood is very small, and is easily destroyed by retained secretions. Fourth, all retained secretions act as irritants and perpetuate chronic rhinitis. A discharge from the nares does not invariably represent too free secretion. It more frequently represents an altered secretion, and occasionally a lessened secretion, where the currents of air take up the aqueous portion too rapidly, leaving the more solid parts to form a discharge.

The first step towards preventing and curing catarrhal troubles in the nasal passages is to gain good, vigorous health. Attention to food, exercise, clothing, baths, etc., is very important.

The next part of the subject is the medicinal. The nasal passages should be thoroughly cleansed with warm alkaline solutions, either by pouring the solution into the nostrils with a teaspoon, snuffing it from a sponge or the palm of the hand, or by using an atomizer. All crusts should be removed, and any diseased spots should be touched with some stimulating alteratives, as iodine or chromic acid.—*Archives of Pediatrics.*

SALICYLATE OF SODA IN CHOREA.

Sutherland, George W. (*The Lancet*, 1892, ii., 909), says: In a number of cases the use of this drug had been entirely without beneficial result; and in the following case the chorea developed while the patient was under salicylate of sodium, and after this remedy had removed the symptoms of rheumatic fever. F. S., a girl, aged seven years, was seized with a well-marked attack of rheumatic fever, accompanied by endocarditis of the mitral valve. Under salicylate of sodium, the child rapidly became convalescent. Three days afterwards, while the salicylate of soda treatment was being continued as a precaution against relapse, symptoms of chorea appeared, and rapidly grew very bad, until she was put on arsenic, when she began to improve and soon recovered. It would be interesting to know whether the salicylate treatment of rheumatic fever has had any influence on the number of cases of chorea immediately following the fever. —*Archives of Pediatrics.*

GASTRIC ULCER IN A CHILD TWO AND A HALF YEARS OLD.

Colgan, James F. E. (*Medical News*, 1892, lxi., 408), says: The patient, a girl, two and a half years old, was first seen on May 26, 1892, and was said to be suffering with spasms. The temperature was 106°; the pulse about 150, rather full and tense; the breathing was stertorous; and all of the voluntary muscles of the body were in active contraction. There were also involuntary evacuations from the bladder and rectum.

The child had been perfectly well until eleven o'clock that morning, when she said she did not feel well. There was no vomiting and no complaint of pain. The convulsions were readily controlled, and consciousness, which had been lost from the beginning of the attack, was beginning to return, when another convulsion occurred, apparently limited to the diaphragm, and terminating fatally at twelve o'clock.

The autopsy showed a perforating ulcer of the stomach. The ulcer was on the posterior wall, at the cardiac extremity, close to the greater curvature. In some places there was an entire loss of substance, the floor of the ulcer being made up of only peritoneum. There was thickening of other parts of the stomach, especially on the anterior wall, extending to the lesser curvature.

The cause of the ulcer in this case was likely chronic gastric catarrh. The stomach was thickened in several places; the mucous membrane appeared also to be swollen. The child had, no doubt, been allowed to eat everything that it wished. A gastric catarrh developed, which, becoming chronic, was eventually followed by ulcerations and perforation, with resulting peritonitis, to which must be ascribed the convulsions and death.—*Archives of Pediatrics.*

A CASE OF DIPHTHERIA IN WHICH THE MEMBRANE PERSISTED FOR A LONG TIME, WITH NEPHRITIS AS A CONSEQUENCE.

Hawkins, J. A. (*Medical News*, 1892, lxi., 407), says: The patient was a boy, ten years old, with diphtheria of the tonsils, which, in six days, extended to the naso-pharynx and involved the uvula, soft palate, the mucous membrane of both cheeks; in fact, completely lined the buccal cavities and the under surface of the tongue. This occurred in spite of the internal use of mercuric chloride and tincture of iron, and the local use of mercuric chloride.

The membrane did not entirely disappear until about four weeks from the commencement of the disease, and albumen was present in the urine during the last three weeks of this time. Two weeks after the boy was around he again began vomiting, but no albumen was found in the urine. However, on examination of his urine two weeks later, it was as follows: The quantity was one and a quarter pints in twenty-four hours. It was acid, had a specific gravity of 1.016, and contained albumen. Diuretics were given, but the quantity of urine continued to grow less, and for three days the child passed on an average only six ounces per day. His heart became weaker, and at one time he was expected to die: but the urine began to be excreted more freely, and he steadily improved, although he is still so weak that he cannot bear his own weight on his legs.

This case was the first of seven in one family, all the others of which recovered in from eight days to two weeks, except one girl, four years old, who died on the sixth day from diphtheritic poisoning, the nose being completely filled with membrane.—*Archives of Pediatrics.*

PATHOLOGY

IN CHARGE OF

JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,

Professor of Pathology, University of Toronto and Ontario Veterinary College; Pathologist
to Toronto General Hospital and Home for Incurables.

TUBERCULOUS ULCERS OF THE STOMACH.

Musser (J.H.) has made the following conclusions:

(1) Tuberculous ulceration of the stomach is rare.

(2) It occurs more frequently in children.

(3) It is never primary.

(4) Gastric infection is probably due to the voluntary or involuntary swallowing of sputum.

(5) The presence of the bacillus tuberculosis is the only positive proof of the nature of the ulceration.

(6) The anatomical peculiarities of this form of ulceration include the following:

(*a*) The seat of the ulcer is in the lesser curvature, although it may be found in any position.

(*b*) More than one ulcer is usually seen.

(*c*) The ulcers are large and irregular.

(*d*) Miliary tubercles on the floor of the ulcer in the submucous coat are seen.

(*e*) The ulcers are near vessels, and the results of vascular ulceration are found.

(*f*) Small caseating masses are seen in the ulcer or at a portion of the periphery. Similar collections are found in the territory adjacent to the ulcer, in the submucous coat.

(*g*) The peritoneum is studded with miliary tubercles very often.

(*h*) Neighboring lymphatics are often involved.

(7) In the large majority of cases there were no symptoms during life.

(8) Sudden hemorrhage is a frequent symptom and cause of death; it has been particularly noted in children.

(9) Epigastric pain and vomiting may occur.

(10) The presence of gastric symptoms of this kind, occurring in the course of tuberculosis, is significant of possible ulceration.

(11) In view of the fact that the swallowing of sputum is possibly dangerous, expectoration should be insisted upon in adults, and its method taught to children.—*English Medical Press.*

[In a considerable series of *post-mortem* examinations, I have come across two cases of tubercular ulceration of the stomach; both were girls, and both under 14 years of age. The ulcers, single in one case and multiple in the other, were in both cases on the lesser curvature, and near the cardiac orifice. The largest ulcer had the diameter of a five-cent piece. In one case there were severe gastric symptoms, in the other none. No hemorrhage occurred. No nodules could be seen beneath the serous coat, as so commonly seen in intestinal tuberculosis.—J.C.]

Congenital Absence of the Peritoneum.

Grimsdale (T.B.) recently exhibited an interesting case of this nature before the Liverpool Medical Society. The patient was a young woman, married about eighteen months, no pregnancy, menses practically normal. From her marriage she had suffered more or less pain in the left iliac region, and a few weeks before coming under observation she fell on the stairs, striking the abdomen. Acute pain was felt at the time, but notwithstanding this she went out with her husband. While out she was suddenly seized with such pain that she had to be taken home and put to bed. A short time after this she was admitted into the Hospital for Women, under Dr. Grimsdale. From the time of her admission there was no pyrexia, nor was there any history of fever, but a cystic swelling as large as a fœtal head was felt in the left iliac region. The patient had also slight exophthalmos and a small goitre. The abdomen was eventually opened, but no trace of peritoneum could be discovered. The intestines were, as far as could be observed, universally adherent, and had to be separated in the direction of the cyst. This was finally reached, and about a pint of clear serous fluid evacuated. One or two smaller collections were also emptied, and all washed out and drained. The patient made an uninterrupted recovery. He believed the case to be one of congenital absence of general peritoneum, similar to some that had been described.—*Epitome of Medicine.*

The Toxicity of Blood Serum from Women Suffering from Puerperal Eclampsia.

Tarnier and Chambrelent (*Annales de Gynécologie*, November, 1892), in a series of six cases of eclampsia, have investigated the toxicity of blood serum. The conclusions reached by them show that the blood serum of such patients is decidedly poisonous, and that its poisonous quality is in inverse ratio with that of the urine of such patients. There was no reason to suppose that the poisonous properties of the blood serum depended at all upon drugs given to these patients. A prognosis as to the gravity of a case of eclampsia may be based upon an investigation into the properties of the blood serum of the patient.—*American Journal of the Medical Sciences.*

PIGMENTATION IN ADDISON'S DISEASE.

[Raymond: *Arch. de Physiol.*, July, 1892.]

The author takes for the subject of his study a case of melanodermia, occurring in the course of a leukæmic lymphadenosis. All of the symptoms of Addison's disease were present, although there was neither tuberclosis nor any other affection of the adrenals found. Mr. Raymond arrives at the following conclusions:

(1) Abnormal pigmentations result from disordered innervations.

(2) Pigment is carried to epidermal cells by migratory corpuscles which have relations with blood vessels.

(3) Epithelial cells have not the power in themselves of producing pigment, but there are present in the skin cells whose function is to elaborate pigment and carry it to the epidermis.

(4) These cells are in the lower animals immediately governed by the nervous system, and it is legitimate to compare them with those found in men, and to conclude that the latter are also under nerve governance.

(5) Accepting this hypothesis, the pigmentation of "bronze disease" would result from a disturbance in normal pigment formation, caused by irritation of the abdominal sympathetic, which reacts reflexly upon the centre or centres supposed to preside over that process.—*Rev. Internat. de Bibliog. Med.*

EXCRETION OF BACTERIA BY THE ANIMAL ORGANISM.

[Perince and Scagliosi: *Deutsch Med Worchenschr.*, Aug. 25, 1892.]

The staphylococcus aureus, bacillus subtilis, bacillus pyocyaneus, and the micrococcus prodigiosus, when injected into an animal, are generally gotten rid of through the bile and urine. Occasionally they make their way out through the mucous membranes of the nose, mouth, trachea, stomach, or vagina, or in the milk, semen, or serous exudates. The excretion of pathogenic bacteria begins from four to six hours after their entrance into the organism, and lasts so long as the animal lives; whilst in the case of non-pathogenic forms, it does not commence till from twenty-four to forty-eight hours after injection. Anthrax bacilli and bacillus pyocyaneus preserve their virulence after being cast out. Both pathogenic and non-pathogenic organs give rise to an hyperæmia of the kidneys, with extravasation of blood into the tubules and degeneration of the living epithelium. Cultures can be made from the different organs of the body before it is possible to demonstrate the microbes in the blood. The authors present the following explanation of this fact: that many of the bacteria are destroyed in the blood after inoculation; those that escape lodge in the different organs, multiply, and keep reinoculating the blood, which finally loses its bactericidal properties and allows their circulation.—*Rev. Internat. de Bibliog. Med.*

Editorials.

OVERCROWDED PROFESSIONS.

There is a general impression that we have too many doctors and lawyers; and the opinion has been rather freely expressed in various quarters that the trend of our public school system is to give the sons of farmers a sort of education which makes them discontented with their surroundings, and drives them to the larger centres. Among those thus influenced a large number go into the professions. The tendency of the age in this and other countries appears to be in the direction of centralization; and many give the public and high schools credit for creating a certain amount of such tendency.

It is, of course, rather an old story that too much education will injure certain classes. Few there are, however, that are likely to publicly advocate measures that will impair our grand public educational system. The majority do not care to go back to the ignorance of the dark ages, notwithstanding all the "bliss" that may be connected with that, sometimes, happy condition.

We are pleased to notice that the Government of Ontario appreciates the evils referred to, and is endeavoring to find a remedy. At the meeting of the Central Farmers' Institute held in Toronto the second week in February, the Minister of Agriculture made the important announcement that an effort will be made in the public schools to so change the character of the teaching that the attention of the pupils will be directed towards "the beauties of rural life, the importance and dignity of labor, and the honor which may come to a man who excels in agricultural pursuits." The Minister gave an outline of his scheme. The following short extracts (*The Toronto Mail*) will show the main features:

"It is proposed to open a summer school at Guelph during the summer holidays, to which the teachers of our rural schools will be invited. Here there will be given a series of forty or fifty lectures on subjects appertaining to agriculture, including chemistry, botany, and geology, not with a view of fitting them in that short time to teach technical agriculture, but to prepare them to give a series of popular talks to the children on plant and animal life, nature of the soil, with special reference to their immediate surroundings, and other kindred subjects which will naturally present themselves in this connection."

* * * * * *

"This scheme is but a commencement of this work; it may not be ideal, but the expense of it to the country will be so small that it appears to the government to be worth testing. Should the teachers make as good use of it themselves the next few years as they may, I think I can prophesy that within the next ten years you will find that instead of the brightest and best of our young people making haste to the city, they will be turning their attention to those studies connected with agricultural pursuits which will in the end give such an impetus to the prosperity of this country as never before existed."

We hope this scheme will be successful, and that the race of agriculturists will not die. After all, the doctors and lawyers, and even the manufacturers, would have rather a lonely time without the farmers.

THE DEFENCE ASSOCIATION LETTER.

A letter signed by such men as Drs. Sangster, Armour, Hillier, and Coburn, representing, as they do, a strong organization of respectable and influential members of the medical profession in Ontario, certainly deserves and is likely to receive careful consideration. From the information at our disposal we will attempt to give fair, but brief, answers to the questions in the circular.

(1) Do you desire to have the Medical Council reconstructed so as to make the medical profession strictly self-governed? The Medical Council should be reconstructed so as to make a majority of its members the direct representatives of the regular profession.

(2) Do you desire to have the assessment clause of the Ontario Medical Act repealed? Yes—as soon as possible. But the Council should be enabled to fulfil all its obligations. There is probably room for economy in certain directions.

(3) Are you in favor of triennial Council elections? There can be no objection raised excepting that it would add to the expenses of the Council.

(4) Do you approve of controverted elections being subject to judicial decision? Yes.

(5) Do you think the functions of the Medical Council should be limited and more strictly defined? Yes.

(6) Shall the obnoxious medical legislation of 1891 be repealed? It might well be amended as soon as the Council by lapse of time, with the practise of rigid economy, has a better financial basis.

(7) Do you consider that the reckless extravagance of the Council should be restrained? While it will generally be acknowledged that mis-

takes have been made in financial matters, it is doubtful if the majority of the profession are prepared to support the charge of reckless extravagance against the Council.

(8) Do you think that the Medical Council should be required to disembarrass itself by disposing of its real estate? No.

(9) Do you desire to have your name enrolled in the membership of the Medical Defence Association? It is obvious that each practitioner must answer the question for himself.

We regret the tone of the circular. Such expressions as "clandestine methods," "reckless extravagance," "reckless wastefulness," "transgressed the law," "not honest or truthful," "freely using the money of the profession to fortify itself (the Council) in a false position," "fraudulently and by misrepresentation," might well have been deleted, or at least amended.

THE "SCHOOLS" AND THE MEDICAL COUNCIL.

We are at a loss to know why a portion of the general profession should entertain any hostile feelings against the universities and the medical colleges of Ontario. We will take it for granted that the Council, if wise counsels prevail in its deliberations, is likely to assist the general profession, especially by maintaining high standards. Few are likely to deny that at the present time the Ontario standards are sufficiently high to make them "eminently respectable." They are certainly higher than any formerly known in this province, and higher than any now or formerly known on this continent outside of Ontario. Have the "school men" ever combined in attempts to lower the standard in any way, or to prevent it from being raised? Probably the most important vote ever taken in the Council on matters pertaining purely to educational questions was that which decided on the five years' course. An analysis of that vote will show that out of the eight collegiate representatives present, four voted in favor of the five years' course, viz., Britton, Moore, Rosebrugh, Thorburn; and four against, viz., Fenwick, Fowler, Geikie, Harris. This, however, is no exceptional case. In fact, we doubt if any one can name a single instance in which the college members united in opposing any measure brought forward in the interests of the profession. We have no reference to the merits of the vote above mentioned, and we believe that both parties were desirous of working in the interests of the profession.

Under such circumstances, we feel inclined to ask our friends of the "Defence Association" to explain the following sentence: "The experiment of yoking together in one council two elements so essentially antagonistic as the profession and the schools has unquestionably resulted disastrously to the former." Let us come down to particulars. Take, for instance, the University of Toronto. Its senate elected as its representative in the Council—Dr. Britton. Will any one who knows Dr. Britton intimately, or who has followed his course in the Council, seriously assert that he has ever shown the slightest inclination to oppose the interests of the profession? We think not. Apart from Dr. Britton, is the University of Toronto likely at any time to endeavor to choose a representative who will be antagonistic to the profession? No; a thousand times, no!

To try another "school man," we might take Dr. Thorburn. Did he ever act as an enemy to the profession? We think not. Indeed, he has shown himself to be a friend, a faithful worker in the interests of the profession and higher medical education. It is unnecessary to go further. The majority (at least) of the remaining collegiate representatives have, as a general rule, followed the lines of Drs. Britton and Thorburn. Under the circumstances, we think we are justified in saying that the profession and the schools are not "essentially antagonistic."

MERITORIOUS WORK.

The work of Drs. J. E. Graham and A. B. Macallum, of the Toronto University Medical Faculty, upon the question of Molluscum Contagiosum, particularly its etiology, has been received with great favor by the profession at large, judging by the favorable criticisms that have appeared upon their article published first in the *Journal of Genito-Urinary Diseases*, and since then widely quoted and reproduced. The great probability of the theory they advance as to the cause of the disease leads one to hope that some day the etiology of carcinoma, and even sarcoma, may be definitely settled. An abstract of their paper, recently printed in the Manchester *Medical Chronicle*, after speaking highly of the conservatism and "safeness" of the view advanced by Dr. Graham, proceeds to mention at much greater length the microscopic investigations of Dr. Macallum, and after giving him much credit for the skill of his technique in preparing his specimens, agrees in the main with his conclusions, finishing a generally favorable abstract of his paper with the regret that Dr. Macallum "had not shown more familiarity with the literature of the subject" by seeing certain German papers upon the same subject before publishing his own. This was written evidently in ignorance of the fact that these German investigations were not published until after Drs. Graham and Macallum had written their paper. One of our Canadian journals has recently printed an alleged abstract of the abstract appearing in the Manchester *Medical Chronicle*, which, inadvertently of course, rather fails to do justice to the original and highly meritorious work of our Toronto professors.

Meetings of Medical Societies.

TORONTO MEDICAL SOCIETY.

Extract from the proceedings of meeting held on Jan. 12th, 1893.

The President, Dr. N. A. Powell, in the chair.

Dr. Adam Wright read a paper, "The preventive treatment of puerperal mastitis." (See page 97 in this issue.)

Dr. Machell said that as to prophylaxis he has his patients wash the nipples every morning with soap and water, after which some such application as cocoa butter, or it combined with lanolin, is used for a month or two before the expected confinement. Virginiak Davis, of ————, recommends highly the use of the following: Tinct. benzoin co., mxv.; olive oil, ʒii.; with lanolin, ʒii. With these precautions, and the use of the binder, one is not likely to have mastitis. Should it occur, there are three periods at which it is most likely to happen: (1) From three to twelve days after labor. (2) At the cutting of the first teeth. (3) At the time of weaning. When it does occur, however, he resorts to pressure by means of an ordinary "over-waist," under which a towel may be placed on each side just behind the base of the breast. If need be, an ice bag may be used as well, and will be found comforting. Free doses of Epsom salts should be given, so as to produce two or three motions daily.

Dr. A. Primrose: Dr. Primrose spoke concerning the operative treatment of mammary abscess. There are certain anatomical peculiarities to be recognized in operating for the relief of suppuration in the breast. The breast lies in the superficial fascia, which is condensed into a membranous layer which forms a complete capsule for the gland, investing it in front and behind. A layer of lax areolar tissue lies behind it, separating it from the deep fascia over the great pectoral muscle. We have to deal with a compound racemose gland of fifteen to twenty-four lobes arranged in series, their longitudinal axes having a similar direction to that of their ducts, which run in a radial direction towards the nipple; the ducts opening by separate apertures on the apex of the nipple.

Operative treatment is modified according to the site of the pus collection, which may be (1) in the subcutaneous tissue superficial to the true gland structure; (2) in the submammary tissue; (3) in the gland proper.

When the pus has collected in the last-named locality (*parenchymatous variety* of abscess), the indications are to open freely and to drain thoroughly. The administration of an anæsthetic is necessary. The incision must be made in the direction of the ducts, *i.e.*, radiating from the nipple. If the abscess lies deeply and is reached by a moderately deep incision, Hilton's method may be employed with advantage; this precaution is necessary because severe or even profuse hemorrhage may result from extensive incisions in the breast tissue, and our patients, who are often profoundly anæmic, cannot bear the loss of a large quantity of blood. The finger is now introduced and the cavity thoroughly explored. In all probability, one will find connectivetissue bands subdividing the abscess cavity; these must be broken down with the finger, so that every corner of the cavity is opened freely.

The breast is now gently squeezed so as to evacuate pus, and then the cavity is thoroughly irrigated with plain boiled water. Having thus cleansed the cavity of pus, perchloride of mercury, 1-3000, is substituted for the plain water, and with this the cavity is flushed out. A drainage tube is now introduced, and an antiseptic dressing of good absorbent property is applied. The dressing must be ample, and secured by a firm (figure of 8) bandage. The pressure should be considerable, and is measured by the amount which the patient is able to bear without interfering too much with respiratory movements. If the abscess be a large one, a counter opening may be necessary to secure free drainage. The after treatment is simple. Dressing is usually necessary daily for the first few days, and at each dressing irrigation is carried on, first, with plain boiled water, and subsequently a little 1-3000 perchloride of mercury is thrown in. Pressure is maintained, the drainage tube is sharpened from time to time, and under favorable circumstances we would expect complete healing in a week or ten days. The object of using boiled water prior to the use of the perchloride of mercury lotion is this: the mercurial lotion causes coagulation of albumen, and the discharge at once becomes thick and does not flow readily. In fact, it is impossible to cleanse the cavity by irrigation with the mercurial lotion alone. After flushing out the pus with plain boiled water, however, the mercurial lotion may then be used for the purpose of acting upon any infected material which may remain behind. It will do no harm at this stage, and is undoubtedly beneficial.

The submammary abscess presents greater difficulties in treatment. The lax areolar tissue here forms a suitable nidus for the spread of pus, which may form a large collection beneath the gland. It is comparable to the lax tissue which exists beneath the occipito-frontalis aponeurosis of the scalp, which is termed the dangerous region of the scalp, in which abscesses are prone to burrow so extensively. The submammary tissue may fairly be termed the dangerous region of the breast, for here abscesses form and spread extensively, and we recognize the danger which exists. in such cases of long-continued suppuration, and of the patient suffering from general pyæmia. Early surgical interference should be insisted upon, establishing a free opening or openings, and most thorough drainage. The opening for drainage should be at the lower and outer margin of the breast. Hilton's method is useful in most cases. Complete irrigation of the cavity in the manner advocated for parenchymatous abscess should be employed. In most cases a counter opening is necessary.

In long-standing cases, the old sinuses must be freely opened and scraped, preferably with the finger nail. The walls may then be washed with a piece of sponge soaked in a solution of chloride of zinc (grs. 40 to ℥i.), and subsequently a dressing with pressure applied. The arm must be secured at rest.

Subcutaneous abscess. Such abscesses, if properly dressed, will give little or no trouble. On their early recognition depends a great deal. The injection of a little cocaine is sufficient, in most cases, to allay the pain of operation. A free incision is then made and the pus evacuated. A small drainage tube is now inserted. The subsequent progress of the case will be favorable if a little care be taken in the management. The amount of discharge is small, and it comes away slowly; the pus is apt to dry and become encrusted upon the under surface of the dressing. Over the mouth of the drainage tube the cavity, under such circumstances, will not drain efficiently. The result will be that the abscess persists, or may even spread and implicate deeper structures. A very simple method of preventing this is to apply a wet antiseptic dressing which will be kept permanently moist. This is accomplished by taking a piece of boracic lint, say, one inch square, and after immersion in boracic lotion applying it soaking wet over the wound; this is covered by a piece of gutta-percha tissue two inches square, the tissue overlapping the lint on all sides. Such a dressing will keep moist for an unlimited period. Absorbent wool may be applied outside this, and secured by an adhesive plaster of collodion; the amount of dressing depending upon the size of the abscess. An abscess treated in this way will close up rapidly. Dr. Primrose had treated such a case without removing the child from the sound breast, and succeeded in getting the abscess to close in the course of a few days, after which milk secretion was re-established in the breast which had been the seat of suppuration. Subsequently the child sucked from both breasts without further trouble. The wet dressing advocated has all the advantages of the old-fashioned poultice, without the disadvantages. A surgeon never thinks at the present day of applying a poultice to an open wound. It is looked upon as a filthy practice, which is to be condemned outright; and in the practice there exists great danger of infecting a wound which may be comparatively sweet, and thus postponing the healing of the abscess. A poultice supplies the most favorable conditions for the growth and development of septic organisms, namely, heat, moisture, and a suitable soil. Of course it may be possible to prepare an aseptic poultice, but this dressing readily becomes foul, and is no more efficacious than the simple boracic dressing I have recommended. One is constantly seeing the ill effects of a dry dressing applied over a small septic wound. On examining such a case, one is often misled before removing the dressings; everything seems dry and apparently the wound is healed; but on removing the piece of lint or gauze, a dried portion of discharge is found blocking the mouth of the abscess, and in which green discharges of pus wells up as the scab is disturbed. If in such a case the wet boracic lint under gutta percha is substituted for the dry dressing, you will find a very different state of matters at the subsequent dressing. The discharge will now be found to have saturated the dressing, and is no longer pent up in the wound, and rapid closure and healing will result. This simple dressing for all small abscess cavities is to be strongly advocated.

Dr. Britton said that whatever other causes assist in the production of mastitis, if puerperal fever is present in the neighborhood, cases of mastitis are prevalent also; and such cases occurring within the first three or four days after labor are worse than those occurring later. He has found the iodide of potash useful as a prophylactic in diminishing the secretion of milk.

Dr. Wm. Oldright said that a frequent cause of sore nipples was the pressure backward against the breast. He thinks a nipple shield will prevent this. There is, he thinks, another reason why the pressure binder is of use; *e.g.*, that it puts the breast in a position of elevation. He thinks the "cold coil" preferable to the ice bag, for then the temperature of the application can be regulated. With reference to the Epsom salts, his experience is that their use gives rise to disagreeable symptoms in the infant.

Dr. A. A. Macdonald said that when the nipples had been pressed back, the pregnant woman should be taught to pull them out. He is in favor of "tanning," and with that end in view he uses a preparation of tannate of glycerine, borate of glycerine, and rose water, in equal parts, to the nipples daily. As to the nipple shield, he thinks the kind to use varies with the patient; but it is important to have a properly fitting one. When the nipples have become cracked, whatever else is used, he has found cocaine a useful adjunct. He has used aristol of late.

Dr. W. J. Greig thought that in treating nipples the object is to harden, and yet to avoid the tendency to crack. He has the nipples cleansed with a warm saturated solution of boracic acid, and then tint. benzoin co. is applied.

Dr. Britton desired to warn the members against the use of cocaine, and related a case where he had used it in a painful fissure. He was soon after called to see the child, whose respirations were down to four per minute, with other symptoms of collapse. It, however, recovered.

The President, Dr. N. A. Powell, thought the application of equal parts of lanolin and vaseline, with oil of cinnamon (it has been shown to be an antiseptic in proportion of 1-2000), very useful as a preventive.

Dr. J. Spence asked if a child should be permitted to nurse from a breast in which there is an abscess.

Dr. A. B. Atherton doubted if preparatory treatment does any good. As to prophylaxis against abscess, he thought well of belladonna plaster, which, if used within 24 to 48 hours after caking commences, will prevent it. After it has been necessary to resort to surgical measure, he has found a large wet sponge the best means of keeping up compression.

Dr. Wright, in reply, said that a child should not nurse where there is a glandular abscess. He thought the free use of Epsom salts of importance, though sometimes it is unnecessary to continue their use more than a day or two; he has never found them harmful to the infant. As to nipple shields, though he has no particular favorite, he thinks it very essential that they should be proper-fitting.

The meeting then adjourned.

Medical Items.

Dr. John Ross, of Embro, has been appointed an associate coroner for the county of Oxford.

Dr. Worthington, of Clinton, died February 7th. An obituary notice will appear in our next issue.

Dr. A. Wills, of Belleville, has been appointed medical officer of the Northwest Mounted Police.

The New York Academy of Medicine.—At the annual meeting held January 5th, Dr. D. B. St. John Roosa was elected president.

Dr. William Canniff has returned to Toronto, after having spent about eight months in Texas, where he went to recuperate on account of poor health. His friends will be glad to learn that he has quite recovered, and shows by his appearance that he has regained the vigor that used to characterize him in years gone by. He has resumed practice in Toronto, and will confine himself chiefly to office and consultation work. He will also devote special attention to sanitary matters.

The French Society of Electropathy is about to manage a yearly exhibition, which will take place on Friday and Saturday of Easter week in 1893.

This exhibition will be held in the "Laboratoire de physique de la Faculté de Médecine" in Paris, and will include the instruments employed in electropathy, as well as demonstrations concerning electric methods, drawings, etc.

A NOTE ON CHLOROFORM.—Having gained confidence in chloroform, through an experimental method aiming at minimum dosage, and having as the chief factor of safety exclusive attention to the respiratory movements and rhythmical breathing, I have come to trust it under all circumstances where the unconscious state is compatible with life. The anæsthesia can be produced and maintained for one or two hours with from one drachm to three drachms of chloroform. The chest is bared, and the assistant is required to note the breathing and pay no attention to the pulse. The secret of the method is rhythmical breathing, uniform density of the chloroform vapor with the minimum quantity. This can be accomplished by covering the face with a handkerchief, pulling up a fold at the centre for an air space for the chloroform vapor, and dropping two to five drops a minute, one at a time, with the quantity regulated according to the breathing. Probably benefit might be secured in every case by breathing exercises as a part of the preparation treatment.—*Charles S. Morley, M.D., in New York Medical Journal.*

A DANGER TO SURGEONS.—An interesting observation made by Prof. Albert on himself emphasizes the importance of caution on the surgeon's part in the use of poisonous antiseptics, especially corrosive sublimate solutions. At a recent meeting of the Vienna Medical Society, the professor stated that for some time he had suffered from dyspepsia, for which no cause could be assigned by the physicians he had consulted. Lately the condition had become very troublesome, and the thought had occurred to him that the constant and free use of corrosive sublimate in his operations might have some share in the causation of the dyspepsia, by reason of the absorption of small amounts of this drug. Accordingly he had his urine examined by Prof. Ludwig, the entire quantity passed during twenty-four hours being tested. The examination revealed the presence of iodide of mercury in quantities comparatively large, if the manner of absorption of the substance be considered. While Prof. Albert is not positive that his dyspepsia is due to chronic mercurial poisoning, he thinks that the facts that his finger nails have lately become softer and that he has lost three healthy teeth seem to point in this direction. *International Journal of Surgery.*

THE distinguished Semmelweiss, who taught German obstetric students—and, to a large extent, the obstetric world—the importance of clean hands, received only scant appreciation while he lived. After graduating in 1844, and suffering certain disappointments, he was appointed assistant in the Woman's Clinic in the Vienna General Hospital in 1846. He issued his celebrated stringent rules to the students in 1847, the result being a sudden and decided reduction in the mortality rates. He was not reappointed when his term expired in 1849 (he was practically dismissed), and was to some extent persecuted for political reasons. He then went to Pesth, where he was appointed to the chair of midwifery at the university. His health was impaired for years, and he finally became insane, and died in Vienna in 1865, A movement is on foot to do honor to his memory by establishing an international memorial to him. A strong organization of British physicians and surgeons is co-operating with the committee in Germany which has charge of the undertaking.

THE PAN-AMERICAN MEDICAL CONGRESS.—Meeting, Washington, September 5th, 6th, 7th, and 8th, 1893. Every effort is being made to make the meetings of the section on diseases of the mind and nervous system, under the presidency of Dr. C. H. Hughes, of St. Louis, Mo., both scientifically profitable and socially pleasant. Papers of distinguished merit from neurological students and physicians eminent in phychiatry have been promised. Every physician on this continent of America, North or South, is hereby cordially solicited and welcomed to join in the meetings of this important section of the approaching Pan-American Medical Congress, and it is hoped by unity of effort and cordial co-operation to make the section of the nervous and mental diseases second to none in the congress in fruitful results to the Pan-American psychiatry.

AT the second annual meeting of the American Electro-Therapeutic Association, the following officers were elected for the ensuing year: President, Dr. Augustin H. Goelet, 531 West 57th Street, New York; first vice-president, Dr. William F. Hutchinson, Providence, R.I.; second vice-president, Dr. W. J. Herdman, Ann Arbor, Mich.; secretary, Dr. Margaret A. Cleaves, 58 Madison Avenue, New York; treasurer, R. J. Nunn, 119 York Street, Savannah, Ga. The third annual meeting will be held in Chicago on September 12th, 13th, and 14th, 1893. A cordial invitation is extended to all members of the profession interested in electro-therapeutics. Arrangements for special rates on railways and at hotels are in progress.

"APOPLEXY OF THE PANCREAS" ATTRIBUTED TO SEA-SICKNESS.—Dr. Hade describes a case of so-called apoplexy of the pancreas occurring in a female in consequence apparently of prolonged and violent sea-sickness. The symptoms were analogous to those of peritonitis—there were severe pains on the right side of the abdomen, and considerable distension, with flatus. The patient died three days after being first seen. The kidneys were found to be granular, and there was a large mass of extravasated blood, originating in the pancreatic artery, spreading over the whole of the pancreas and forcing its way to the two kidneys, which were enveloped in blood clot.—*London Lancet.*

A GENEROUS GIFT IN THE INTERESTS OF MEDICINE TO LAVAL UNIVERSITY.—The Sulpicians have donated to Laval University a large piece of ground on St. Denis street, valued at $30,000, and, besides, $74,000 in cash, the whole to be at the disposal of the medical faculty of the university. Montreal is to have another big medical school. Work is to be commenced immediately, so as to get the buildings in running order as soon as possible.—*L'Union Méd. du Canada.*

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Original Communications.

BACTERIOLOGY OF CHOLERA AND METHODS OF DISINFECTION.

BY GEORGE M. STERNBERG, M.D.,
Deputy Surgeon-General U.S. Army.

As I understand it, I am expected to say something to you about the etiology of cholera, and about its disinfection. Of course, it is not necessary to describe the "comma bacillus" of Koch ; you are all familiar with it. I may say, however, that at the present time bacteriologists over all the world are pretty thoroughly convinced that this is the special etiological agent in cholera. Koch at first met with many opponents, who claimed to have found micro-organisms under different circumstances which were identical, but these claims were not proven. The comma bacillus found in the mouth by Lewis proved not to be in any way identical, and numerous observers have made cultures from the salivary secretions of man, but no one has ever cultivated from the mouth of man a spirillum which liquefies albumen like that of Koch. In reference to comma bacilli in the intestines and their presence in other diseases, numerous bacteriological studies which have been made of the fæces of persons in health and persons with various diseases have utterly failed to demonstrate the presence of anything corresponding to Koch's comma bacillus, or, as we now call it, the spirillum of Asiatic cholera. I myself have made very extended bacteriological researches in yellow fever, having collected fæces from the intestines of cadavers, forty in number, and the discharges from a large number of patients during the epidemic at Decatur, Ala. I have also made comparative experiments with discharges from healthy persons in a large number of cases, and I have never encountered anything which corresponded with Koch's comma bacillus. But, on the other hand, all competent bacteriologists who have made researches at the proper time and in the proper way have, in cholera, been able to demonstrate the presence of that particular micro-organism. I have not heard the results of the researches now being made at Quarantine Station, but we cannot doubt it will be found there.

As to the biological characteristics of this micro-organism, I think I will save time by referring to some of the proof-sheets of my work, which is now being put in type. This spirillum grows readily in the presence of oxygen, and also in the absence of oxygen, as it must do to thrive in the intestines. I shall not stop to dwell upon its characteristics in culture media, but I will say that it does not form spores, and consequently is very easily destroyed. Indeed, it is one of the most easily destroyed of all the pathogenic organisms known. It grows readily in a variety of organic media. Milk is a very favorable medium, but it does not grow in acid media. A slightly alkaline medium is most favorable for its growth. It grows very readily in bouillon which is diluted with eight or ten parts of water, and it also multiplies to some extent in sterilized river or well water. Experience shows that there is sufficient organic pabulum in ordinary river or well water for the multiplication of this particular micro-organism. In water which is rich in organic pabulum, and consequently contains numerous other common organisms, it dies out, as these take the precedence; so it would apparently multiply more rapidly in water not containing a large amount of organic material than it would in sewage. Koch found in his earliest investigation that this spirillum grows readily on moist linen, or the soiled clothing of patients. In experiments made by Bolton in 1886, he found that it multiplied in distilled water to which bouillon was added in the proportion of fifteen to twenty-five parts in the thousand. The thermal death point of the cholera spirillum I fixed myself some years ago at 52° Centigrade, which is 125.6° Fahrenheit. Kitasato has since made experiments and places it a little higher, at 55° C. There seems to be a difference in cultures in different media, but ten minutes' exposure to 55° C. will suffice. Sixty degrees C. is a good figure, remember—that is, 140° F.—and ten minutes' exposure to this temperature may be relied upon for the destruction of this spirillum; so if your milk or water has been heated up to that point you are safe. In giving our directions to the public, we usually say, boil your water for half an hour.

Another very important point about these particular micro-organisms is the fact that they are so quickly destroyed by desiccation. Koch found in his early experiments that a few hours' exposure in dry air when the culture was spread upon a glass cover were sufficient to kill it. Since that Kitasato has taken up the subject, and has found that it may live for a longer time if the stratum has some thickness. If you have a very thin film upon your cover-glass, the spirilla die very quickly when simply dried in the air. If the thicker layer is used, they may live for a longer time. Under certain circumstances, when he had a thick film from an agar culture, Kitasato found that they lived even as long as thirteen days, but ordinarily they only survived desiccation from a few hours to twenty-four hours.

Now, therefore, in regard to articles coming from abroad that have been ten days or more on the steamer—merchandise, mails, etc., I can hardly understand how clean merchandise in original packages or mails could become infected. The mails might easily become infected by scarlet fever or smallpox from convalescents. We know very well that something from the surface of the body of such persons might get into letters written by them, and be transmitted in that way, and yet we very rarely hear of that sort of thing happening. We do not attempt to fumigate our mails on account of smallpox, and in case of cholera, where the germ is in the intestine, even if a sick person sat up and wrote a letter, the chances are that the letter would not convey any infection. I therefore think that all this insistence upon disinfecting the mails and merchandise is going a little too far in that direction, especially as we know the biological characters of this particular micro-organism, and know that it is quickly killed by desiccation.

In regard to the value of various disinfecting agents, innumerable experiments have been made in this country and in Europe by competent observers. In a culture in bouillon, twenty-four hours old, experiments made in Koch's laboratory show that it is killed by hydrochloric acid, 1-1300; sulphuric acid, 1-1000; methyl violet, 1-1000; carbolic acid, 1-400. These experiments were made, however, under different conditions from those which would obtain in practical disinfection. For practical purposes the experiments made by Bolton for the Committee on Disinfectants, under my direction, several years ago, are more reliable. In Bolton's experiments the spirilla were killed in two hours by mercuric chloride, 1-10,000; sulphate of copper, 1-500; and carbolic acid, 1-200; and one per cent. solution of carbolic acid will destroy the spirillum with great certainty in such cultures in two hours.

The methods of obtaining and testing the presence of the cholera spirillum in suspected rejecta I will not dwell upon now; but I want to call your attention to the measures recommended by the International Sanitary Conference, which assembled in Rome in 1885. When cholera last prevailed in Southern Europe, the Italian Government invited the countries of Europe and America to send delegates, supposed to be experts in sanitary matters, to an international conference, for the purpose of considering measures of prophylaxis against cholera. The conference met in Rome on the 23rd May, 1885, and had daily sessions until the 7th June. A Committee on Disinfection was appointed on my motion. This committee consisted of Dr. Koch, of Berlin; Dr. Sonderegger, of Switzerland; Dr. Hoffman, of Vienna; Dr. Thorne, of England; Dr. Semmola, of Italy; Dr. Proust, of France, and myself; and the report, which was made after very careful consideration, was adopted unanimously by the conference, so that it is the most authoritative report published, although I believe a majority of health officers in the United States are not familiar with it. I made a translation of this report which was published in the *Marine Hospital Report*, volume of 1886. It recommends as a means of disinfection against cholera, besides destruction, steam at 100° Centigrade, carbolic acid, chloride of lime, and aëration. Carbolic acid and chloride of lime were to be used in aqueous solution as follows: carbolic acid, two per cent.; chloride of lime, one per cent. (called the weak solutions); carbolic acid, five per cent.; chloride of lime, four per cent. (called the strong solutions). These means of disinfection were to be applied as follows: For the disinfection of persons, one of the weak solutions should be applied. For the disinfection of clothing, bedding, and similar articles, the direction is given that steam should be passed through the articles for one hour.

Steam and dry heat, as you know, are two very different matters. There has been a great deal of bad practice on this subject. Certain persons, having read that 60° C. kills the spirillum, have taken it for granted that if an oven is heated up to somewhere about 100° C. the cholera spirillum will be certainly destroyed. But Koch's experiments, made upon other similar organisms having about the same resisting power, show that if dry heat is used the temperature must be carried up to 220 or 230° F. Learning that 220 to 230° F. is required, and ignorant of the fact that it was dry heat that was meant, some authorities have directed that steam should be used at that temperature, which gives you a very great pressure and makes it impracticable. As a matter of fact, 100° C., the boiling point of water and temperature of live steam, is all that is required. It must, however, be freely admitted to the chamber in which the articles to be disinfected are placed, and must come in contact with them. If I were in charge of a quarantine establishment and were disinfecting a quantity of things, and was satisfied that live steam had been in contact with every article thoroughly for five minutes, I would be satisfied that the disinfection was complete—a great deal more so than if a lot of articles were tumbled in together and left for an hour exposed to the action of steam, for in this case some of the articles might not be disinfected at all, as the steam does not penetrate readily into the interior of such a mass. This is an important point in using steam or sulphur dioxide. The International Sanitary Conference directs: "Immersion for twenty-four hours in one of the weak solutions—carbolic acid, two per cent.; chloride of lime, one per cent." I saw the directions of the New York City Board of Health published in the *Times* this morning, and they call for the use of carbolic acid in five per cent. solution, which is good. A circular which I saw a few days ago recommended the use of sulphate of zinc and chloride of sodium, which salts have been proven to be comparatively worthless as disinfectants, but the directions require the use of the solution boiling hot. It is perhaps a good plan to give the people some salt, such as chloride of sodium or sulphate of zinc, to put in the water in which articles to be disinfected are boiled. It might satisfy them better, and the boiling point would be somewhat higher from the adding of the salt. I was surprised that in the same circular sulphate of iron was recommended as a disinfectant for privy vaults and cesspools. It has been demonstrated that sulphate of iron has scarcely any disinfecting value; it is a good deodorant, and a tolerably good antiseptic, but is unreliable as a disinfectant. An agent which is very valuable and very important, and which has not been mentioned in any of the circulars I have seen, is recently-slacked lime. Experiments in Germany with recently-slacked lime show that it is a very potent disinfectant. The cholera spirillum and various micro-organisms in the dejecta of patients are all destroyed by a freshly-prepared milk of lime, and recently-slacked lime thrown into urinary vaults or cesspools is one of the cheapest and best methods of disinfection. Chloride of lime was first brought into prominence by the experiments of the Committee on Disinfectants of the American Public Health Association as one of the very best disinfectants. It is much cheaper than carbolic acid, and has other advantages. In hospitals, sulphate of iron, which I have been telling you has no value as a disinfectant, kept in a boiling hot solution in a reservoir of some kind, would be an excellent thing to disinfect bed-pans—the hot water would be the disinfectant and the iron would remove the odor.

"Articles of leather, such as trunks, boots, etc., should be either destroyed or washed several times with one of the weak solutions. Vomited matter and dejections of the sick should be mixed with one of the strong solutions in quantity equal to the material to be disinfected. Linen articles soiled with the dejections of the sick, if not immediately subjected to the steam, should be immersed in one of the strong solutions and left for four hours."

The article which I shall next read was adopted unanimously by the Committee on Disinfectants, and subsequently by the International Sanitary Conference.

"The disinfection of merchandise and of the mails is unnecessary. (Steam under pressure is the only reliable agent for the disinfection of rags.)" By merchandise is meant ordinary merchandise in unopened packages, such as goods from wholesale merchants, etc. It does not mean the rags here spoken of; it does not mean damp hides in bad condition; it does not mean spoiled meats or vegetables undergoing putrefaction; but it means ordinary merchandise stored in the hold of a vessel. It is a great mistake to spend time in disinfecting things that do not need it and to neglect those things which do need it, and we should devote ourselves to to the things which especially need disinfection.

Further directions are given about boiling water for drinking purposes, etc., and the conclusions further relate to quarantine in general and the precautions to be taken at the port of departure, during the voyage, and in the case of vessels from infected ports upon arrival. I shall not enter upon the subject of quarantine, but before leaving the platform I wish to call your attention to the method which I think is the most satisfactory for collecting discharges from cholera patients and others for bacteriological examination and transportation from the bedside to the laboratory. What we want is some material from the intestine, or, if the patient is living, a little material from the vessel containing dejecta, being very careful, if sending it to a bacteriologist, that it has not been already disinfected; that is, that the material has not been placed in a vessel that has contained a disinfectant. I have offered to make these examinations at the Hoagland Laboratory, if there should be any call for them in the city of Brooklyn. I am one of those who believe that if a certain number of cases were landed from Quarantine here in Brooklyn or in New York, and scattered about in ten or a dozen different parts of the city, that with the facilities we have, and the knowledge we now have of prophylaxis by means of disinfection and isolation, the disease could be stopped even then. I believe it would not extend in these cities, because I have a good deal of confidence in our water supply. You all know that when the cholera prevailed in Naples, as a very severe epidemic, refugees went to Rome and fell sick and died. Rome is dirty enough, but she had a good water supply, and the disease did not spread, there being no cases except those of the refugees. We hear that refugees from Hamburg have been taken sick in Berlin, but there is no local epidemic there so far, and I believe the Berlin people will be able to keep it away, and we can do the same thing. —*Brooklyn Medical Journal.*

THE HYGIENE OF CHOLERA.

Abstract of Address

By Albert L. Gihon, M.D.,

Medical Director U.S.N.; ex-President American Public Health Association.

I thank you very cordially for your courtesy in asking me to say something; and as a member of the corps which has to do with these floating habitations which have invariably the reputation of bringing this disease and carrying it about the world, I cannot refuse to say something; but after the very interesting talk of my friend Colonel Sternberg, I feel that there is very little left for me to say. The occasion that brings us together just now is not actually the presence of an epidemic, but of its attendant cause, because all epidemics have a phobic *alter ego*, and we have now amongst us really not cholera, but cholera-phobia ; it kills in an aggravated form, but in a mild form I do not know that it is altogether to be regretted. I recently learned from the members of the executive committee of what used to be called the National Conference of State Boards of Health, but which in the last year is now known as the International Conference of State Boards and Provincial Boards, not only the United States, but Canada and Mexico—I learned from them that it was the desire and intention of the State Boards of Health of this country and Canada and Mexico that there should be such a department of public health in the United States, which could unify them, unite them together, co-operate with them, and in time of emergency like this could direct them, could authorize them to do, could tell them what ought to be done. Now a national board of health, or department of health, or a bureau of the public health, whatever you call it, is absolutely useless unless it is an efficient one; and how can it be an efficient one unless it has all the means and money and men that it requires ?

The mistake that health-men make everywhere is in tacitly acquiescing in the poor little sum doled out to them, and tacitly acquiescing in that the nation becomes imbued with the idea that that little is enough, and I believe health boards and health officers would do better by refusing to do anything unless they had the means they ought to have. ,A national board of health with $5000, or $10,000, or $20,000 is no earthly good. It must have the proper power to use $100,000 or $200,000 if necessary. Now if we had a national department of the public health, foreign nations would know what to expect of us. The first absolute necessity of dealing with cases like this is to take the well off the ship as soon as possible, and not to shut them up and keep them there. Such a practice is indefensible, it is absurd, it is preposterous, whether it be five, ten, fifteen, or twenty days; they should not be shut up on board ship a single day.

If we cannot do that, what is it that we can do in the city? It is very simple; everybody says, clean the city. Do you realize what cleaning the city is, what sanitary inspections are? I do not believe that there is a man here who can inspect thoroughly one hundred tenement houses in a week. I said thoroughly; I do not mean simply to walk and look around the rooms. To inspect a tenement house or a palace involves beginning at the attic, the opening of every door and window in that house, the taking down of every curtain, the looking under every bed, the turning over and moving of that bed, the opening of every closet and looking at things in the closet, the moving of every piece of furniture, and going down and down into the cellar and looking at everything in that cellar.

Now, if houses are foul, what do you think of ships? You probably never have seen a Russian Jew when he starts for this country. He is a man who probably has never washed in his life; he is a man who has certainly worn the rags upon him as many years as these rags would hold together. You put that man in a crowded steerage; he becomes seasick, (this same thing applies to the women), he vomits, his dejecta are thrown out in that bunk, it becomes saturated with seasickness, and then he becomes choleraic. Will you tell me what amount of cleansing will get that ship in condition again for a long time, except all such men are taken out and then she is thoroughly washed and cleaned? All these ships are damp ships. We are told that water is the very means of communicating cholera. We know in the navy that water has had a great deal to do with the spread of tubercles. It used to be the disease that prevailed in our service, and the medical officers of the navy for thirty years were fighting wet decks, and the last few years there has been no such thing as wet decks on board ship. If the atmosphere can support and transmit this aqueous vapor, and with it the tubercle germ, is it not possible that the same atmosphere can transmit that aqueous vapor, and with it the cholera germ? I do know whether Dr. Sternberg will agree with me in that; certainly, I think if that aqueous vapor gets into the mouth in any way, it will be carried down to the stomach. Imperfect sanitation is worse than no sanitation. Fumigation is as unfortunate a word as quarantine. I abominate the word quarantine, because it carries with it the idea of forty days' detention, and that I do not approve of; it would be better to call it sanitary non-intercourse. Fumigation is worse than quarantine, because if you fumigate you burn something, and you think you are perfectly safe. A friend told me he was in a house during a fumigation, and as he did not feel inclined to move he stayed there, and sat in the room and read a paper during all the time of the fumigation. There is a report in the papers of a ship which was fumigated, and after it was all over they found an old hen still sitting on her nest; and still another case where a cat was discovered having gone through the fumigation without being disturbed. Now processes of that sort are worse than none at all, in that they give a feeling of protection when it does not exist.

Unfortunately commerce is the enemy of sanitation. Commerce opposes everything that sanitary officers and health officers try to do, and I am delighted when commerce is made to bow. I would carry out the President's proclamation to the very letter, even if it obstructed immigration. There is a certain sort of immigration that we want to have in this country. Two years ago I came over from Holland with a party of young men and women who constituted the Holland American Land Company. They went out to California and bought some land there and domesticated. Those are the same kind of Dutchmen who settled in Brooklyn years ago, and whose names are left in your streets, the Brevoorts, the Remsens, and the Rapalyeas. A little stream mixes with us and is lost; but when you take the flood of sewage and pour it into our country, as is being done now, the whole mass gets muddled. Every insane asylum, every almshouse, every charitable institution contains them. If you open soup houses, what is the result? The indigent people do not get the soup, but it is these fellows that live on it. If steamships persist in bringing these people here, I hope it may be possible to take our own people who are coming home out of these ships, and send the others back with their rags and with their disease.

I would make every medical man in this city a sanitary inspector under the direction of the health commissioner, give him his block or two, authorize him to go into these houses, rich men's houses as well as poor men's houses, and go from the attic to the cellar and see if they have done that which the circular has told them to do. I think that would be fulfilling the highest duty of the medical profession. Then you would give your health officer a hundred arms, and he would not be limited to the very small force which he has and with which he does so much. Further, I would have every police officer compelled, while on his patrol, to examine the outdoor condition of things—the gutters, the corner grocery stores, looking down into their cellars to see that there is no decaying vegetables. If you do that I think that in one week you can put this city in a thoroughly sanitary condition, and you can defy the cholera and control the disease that has a germ so delicate that you can hardly help killing it.

PROPHYLACTIC MEASURES AGAINST ASIATIC CHOLERA.

By A. C. Abbott, M.D.,
First Assistant, Laboratory of Hygiene, University of Pennsylvania.

With the existence of Asiatic cholera in the western seaports of Europe, the question involving its possible importation into this country becomes a grave one, and it behooves us to exercise the greatest vigilance in endeavoring to prevent such a calamity.

There is no doubt that the suggestion, radical though it is, that has recently been made to the President of the United States by the Medical Board of the Johns Hopkins Hospital, at Baltimore, viz., that immigration be entirely interrupted until after the disappearance of cholera from the western cities of Europe, is by far the safest measure that could be employed.

Should it not be considered wise to check absolutely all immigration into the United States until after the disappearance of the disease from the infected ports of Europe, there remains to be considered the question of quarantine. Quarantine, if maintained for a sufficiently long period, offers a certain guarantee of safety against the spread of the disease through the bodies of individuals who come from the plague-stricken districts; for they are usually detained for a length of time sufficient to permit of the appearance of the disease, had the causative elements gained entrance into their bodies; but, as is most commonly the case, the means employed for disinfecting the personal effects of these individuals that arrive along with them on the same ship are of but little value; and it is through the channel afforded by soiled and infected bedding, clothing, etc., that the greatest danger is to be anticipated.

Another point that is worthy of consideration in connection with the subject of quarantine and of absolute cessation of immigration is whether or not it would avail us much without the institution of similar measures by our neighbor, the Dominion of Canada, into whose eastern seaports emigrants are constantly arriving from the same places as those from which come the emigrants against whom we are taking such radical steps. With Canada separated geographically from the United States by only an imaginary line, it must be plain that it would be practically folly for either country to close its doors against the tide of immigration without similar steps on the part of the other; for, unless they act in unison, the tide will simply be deflected from the closed to the open way, and, related geographically as both are, the existence of cholera in either place would be a menacing danger, if not a practical assurance, of its appearance in the other.

Of primary importance in the management of cases of cholera is, of course, an accurate diagnosis of the condition ; and fortunately this offers but little difficulty to the skilled clinician, particularly if it has been his privilege to have seen the disease before, and still more especially if it is in his power to bring bacteriologic methods to his aid.

When recognized, the management of these cases and the methods of prophylaxis against their spread depend so largely upon absolute isolation and attention to sanitary surroundings that too much stress cannot be laid upon these points.

By isolation is not meant simply the confinement of a patient in a room or apartment set aside for the infectious maladies, but it comprises a great deal more ; it must be absolute, or the sense of security that it affords becomes false, and is, therefore, worse than useless. The isolation of a patient with this disease, or with any other form of highly infectious malady, implies the provision of separate apartments ; an attendant whose duties are confined to patients who are similarly affected ; plates, dishes, bed-pans, bedclothing, etc., that are used by no other patient ; and a rigorous disinfection of all excreta, vomited matters, and refuse food *before they are removed from the apartment occupied by the individual.* It involves the greatest care and intelligence on the part of the attendant to close all channels through which he or she and the patient may become a source of contamination, for contamination and spread of these diseases occur almost as frequently through the attendant as through the patient. The reason for this can be appreciated only after an intimate acquaintance with the nature of the causative element and its peculiarities when outside the body of the diseased individual.

Studies that have been made upon Asiatic cholera in recent years have shown it to be of an infectious nature, and due to the activities of a specific lower organism, which is present in the intestinal canal of all infected persons. This organism belongs to the family of bacteria. It is a bacillus, comma-shaped or curved in its morphology, and presents peculiarities of growth and chemical reactions that render its identification by the bacteriologist a matter of certainty and of a fair degree of simplicity. As a result of studies upon the nature of this organism, when isolated under artificial conditions, it is found to possess a relatively low degree of resistance to both thermal and chemical agents ; that is to say, its vitality and and disease-producing properties are easily destroyed by heat, and it quickly becomes inert when subjected to those chemical substances that are known to possess germicidal qualities. It likewise loses its resistance when *absolutely* dried, but retains it for a longer or shorter time when the drying is not complete. Having gained access to water, its growth seems to depend upon the amount of organic matter present, the reaction of the fluid, and also upon the number and kinds of other organisms that may be present; for, owing to the antagonism that is seen to exist between different species of bacteria, it not uncommonly occurs that one species or group may develop entirely at the expense of the other, which quickly disappears.

Milk offers a most favorable nidus for its growth, as do likewise many solid materials used as food-stuffs, and particularly after they have been cooked. The bacillus is very sensitive to both acids and alkalies, and is quickly killed when subjected to the influence of either. As has been stated, it is located in the intestinal tract of the affected individual, and therefore appears in enormous numbers in the intestinal evacuations from these patients; and it is through these evacuations that the disease is usually disseminated.

Some of the more common channels through which diseases of this class are transmitted are drinking water, milk, and solid food-stuffs that are eaten in an uncooked condition, such as salads, fruits, etc.

Bearing in mind the points that have been here hastily reviewed, it is easy to comprehend the value of measures that will now be suggested for prophylaxis against the disease.

During the existence of an epidemic of Asiatic cholera—

(1) No food, of whatever character, should be eaten in an uncooked condition.

(2) All water intended for drinking purposes should be heated to a temperature of 80° C. (176° F.) for half an hour, or boiled for ten minutes and allowed to cool before using. When iced, the ice should be placed around the vessel containing the water, and not in it.

(3) Milk should be steamed in a vessel placed within an ordinary kitchen steamer (if a regular sterilizer is not at hand) for fifteen minutes, and allowed to cool before using. The same precaution as regards icing is to be taken as was recommended for water.

(4) Salads of uncooked materials are to be dispensed with, and all vegetables, fruits, etc., particularly those coming from districts in which "night-soil" is employed as fertilizer, are to be thoroughly boiled or otherwise cooked before using.

(5) If possible, a daily bath in warm water, with the use of soap, should be indulged in, and the teeth should be carefully brushed after each meal. In short, rigorous attention to personal hygiene is of great importance.

(6) In the management of cases of Asiatic cholera, isolation should be as complete as possible. Wherever practicable, tents on open lots, lawns, or fields are perhaps the best shelter for the sick. These patients should be provided with special nurses, who are made thoroughly aware of the fact that they themselves afford as potent a channel for the dissemination of the disease as do the patients themselves. These nurses should come

in contact with no one other than the patient and physician. They should be impressed with the necessity of rigorous attention to their personal hygiene, frequent baths and changes of clothing being all-important. The nurse should under no circumstances partake of food in the apartment occupied by the patient, and never partake of any portion of the food remaining from the meals of the latter. Before meals her hands should be scrubbed with soap, brush, and hot water, and after drying be rinsed off in 1 : 1000 solution of corrosive sublimate and dried.

(7) The evacuations and vomited matters of the patient should be disinfected *as soon as passed, and before they are removed from the apartment.* This is best accomplished by thoroughly mixing them with ordinary milk of lime (fluid "whitewash") until the mass is of a *distinctly alkaline reaction.* They should remain in contact with the lime for from twenty to thirty minutes. After this they can with safety be emptied into the general receptacle for such matter.

(8) Bed-pans, bedclothes, etc., that have been soiled by the evacuations of the patient must be cleansed by boiling for from *twenty to thirty minutes* in water to which about 1 per cent. of common soda has been added.

(9) Mattresses should be subjected to sterilization in a *steam sterilizer for one hour.*

(10) All clothing, towels, and napkins from the patient should be placed in clean canvas bags and conveyed from the apartment. They should be sterilized in steam for one hour. They can then be removed and washed with safety. If it is not possible to employ steam, they can be packed in an ordinary wash-boiler and boiled for half an hour in water to which 1 per cent. of common soda has been added.

(11) All dishes, knives, forks, spoons, etc., used by the patient should, after each meal, be boiled in 1 per cent. soda-water for half an hour.

(12) The remains of meals should be thrown into a vessel containing milk of lime.

(13) If practicable, the patient should be bathed as often as circumstances will permit, and the nates, thighs, and anus thoroughly cleansed with soap and water.

Before closing, emphasis will again be laid upon the necessity of *isolation* in the sense laid down in the foregoing directions: Separate attendants, who do not come in contact with other attendants whose duties take them to patients sick of other diseases; special clothes, bedclothes, dishes, knives, forks, spoons, napkins, towels, etc., for each patient, and a careful disinfection of the same as soon as they have been used, and are ready to be removed; disinfection of excreta with milk of lime *at the bedside, or before removal from the apartment.*

After the death or removal from the apartment of the patient, the walls should be wiped down with moist cloths, sponges, or fresh bread-crumbs. These are to be burned as soon as used. Floors should be scrubbed with ordinary soap after having been *saturated* with a solution of 1-1000 corrosive sublimate. Furniture should be thoroughly wiped with cloths soaked in 1 : 1000 corrosive sublimate solution. All cotton or woollen materials in the room should be either steamed or boiled, according to the rules already given for bedding, clothing, etc. The room should then be thrown open to air and sunlight for several days.

In the event of death, the body should, without being washed, be immediately wrapped in sheets, placed in a coffin, and buried or cremated as quickly as possible. If buried, it should be placed beneath the surface at a depth of not less than six feet, and not in the near vicinity of a spring or watercourse.

There is absolutely no objection to burying the bodies, providing the interment does not take place in a locality where a spring or watercourse could be directly contaminated; indeed, on the contrary, experiment has demonstrated that this method of disposing of infected materials is second to cremation only in its requiring a somewhat longer time for the accomplishment of the same end.

The foregoing directions comprise those sanitary measures that have been found by experience to afford the greatest protection against the contraction and spread of infectious diseases generally, and particularly of that class of diseases of which Asiatic cholera is a representative.

NOTE.—In times of epidemic, the most common prophylactic measure is, perhaps, fumigation by means of sulphurous acid. This is usually accomplished by burning sulphur in the infected room. In order to carry out this measure with any degree of certainty that it is doing what one desires, a great deal of care and detail is necessary, and for that reason it is not a measure to be recommended for general use. By the ordinary means that are employed in fumigation, practically nothing of good is accomplished. It is, however, possible to disinfect apartments by this means if they are closed as tightly as possible, by pasting paper over the cracks about the doors and windows, and burning not less than a pound to a pound and a half of sulphur for every 1000 cubic feet of space to be disinfected. Even then the best results are obtained only with the simultaneous generation of steam in the apartment, or by previously having moistened every crack and crevice in the wall, ceiling, and floor with water. The reason for this is that sulphurous-acid gas in a dry state or upon dry objects has but little germicidal value; this property is only developed in the presence of moisture.

CHOLERA AND ITS MIGRATIONS.

By Henry Hartshorne, M.D.,

OF PHILADELPHIA.

The extreme public alarm existing in this country concerning cholera, and the action of municipal and national authorities in their endeavor to exclude it, have caused immense commercial losses and great inconvenience—indeed, distress—to individuals and families. It seems important, therefore, that well-defined and well-sustained opinions on the subject should be held by physicians and sanitarians, to whom the people naturally and properly look for advice.

The intervals, often of a number of years, between the widely-prevalent epidemics of cholera, especially in this country, leave opportunity for many of the facts in their history to be practically forgotten. Of physicians now in practice, a large number did not have personal acquaintance with the visitation of 1866; few of them reach back in memory to those of 1849 and 1854. Moreover, the complexity of the subject of the causation of disease, particularly with regard to the questions of personal contagion, local infection, fomites, and atmospheric transmission, accounts for the diversity of opinion even amongst medical men; leaving the conclusions current from time to time often remote from the secure foundations of exact science.

Personal acquaintance, as a practitioner, with cholera in 1849, 1854, and 1866, as well as a good deal of attention to the literature of the subject,[1] makes it pardonable for me to recall at this time some of the facts, and the legitimate, indeed logically necessary, deductions from them, which appear to be now largely lost sight of, even within the medical profession. As astronomy was a science before Schiaparelli, so cholera had a history before Robert Koch. Yet certain ideas are now by many persons taken for granted which were long ago tried and found wanting; some of them as far back as 1831-32. A few cardinal questions may serve to bring the matter clearly in view.

Is cholera personally contagious? Only one *rationale* of its personal transmission has taken much hold of the minds of the medical profession: that of its being produced by the use of drinking water infected by the stools of cholera patients. There is much to sustain the opposition of Pettenkofer and others to this theory; all the facts asserted in its favor being explicable under the wider generalization that, in the presence of the epidemic cause, foul drinking water is the most effective of all agencies in the propagation of cholera. Since the discovery by Koch of the asserted specificity of the comma bacillus, the cholera-stool theory, and with it the contagion idea altogether, has prevailed over everything else; bringing back a *wave* of rage for rigid quarantine, isolation, etc., under which we are now suffering more than ever before in this country. It is satisfactory to read in the editorial columns of the *Medical News* (September 3rd, 1892) an allusion to the "disputed question of the causal relation of the so-called comma bacillus." The affirmation by T. R. Lewis, Ray Lankester, and others, of the identity of that microbe with one commonly found in the intestines, and even in the saliva, has been denied, but not disproved.

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[1] Cholera: Facts and Conclusions as to its Nature, Prevention, and Treatment. By Henry Hartshorne, A.M., M.D., etc. J. B. Lippincott & Co., Philadelphia, 1866.

That the cholera-stool transmission cannot be the exclusive mode of extension of cholera over the world is demonstrated by well-known facts. Look, for instance, at the immense zigzag leaps, or rather flights, taken by the epidemic in its migrations after entering Europe from Asia.

In 1831 cholera was in Warsaw in April; in Hungary from May to September; in St. Petersburg in June; in Moscow in September; in Berlin and Vienna first in August; Hamburg, October 11th, and Sunderland, England, October 26th; but not in Edinburgh and Glasgow until January, nor in London till February, 1832; in Dublin and Paris in March. On our continent, Quebec and Montreal had it in June, and later in the same month New York and Albany; Philadelphia in July; Boston and Baltimore in August; by September it was present, with more or less virulence, in twelve states of the Union.

Not proposing to touch upon this history, except for the purpose of exemplification, it may be mentioned that in 1849 the first American cities attacked were: In January, Memphis and St. Louis; in May, Chicago, Buffalo, New York, and Philadelphia; in July, Baltimore had a very remarkably limited epidemic, affecting *one-half of its almshouse building*, the side whose windows overlooked a large and foul cesspool. England and Wales, besides Cologne and other continental cities, were affected with the epidemic in 1848-49.

In 1865, Arabia and Egypt were severely visited in the spring; Constantinople, in July; then it spread over Europe. In 1866 it was in Egypt in June; thence it traversed Europe, and finally crossed the Atlantic, reaching New York, Philadelphia, and some other cities. It was our last cholera epidemic. Since that time the most notable cholera year in Europe has been 1884. Its ravages during that summer were particularly severe in Naples, 1200 deaths resulting from it in that city by the middle of September, and nearly 11,000 altogether in Italy.

The order of succession in the European cities in the present year has been, so far: Moscow, St. Petersburg, Paris, Hamburg, Havre, and Antwerp. How did cholera pass from St. Petersburg to Paris without, so to speak, stopping at stations by the way? Political sympathy, it is true, exists between Russia and France. The Psychical Society might suggest that it was communicated by telepathy, but sanitary science admits no such conception. Neither should it hesitate to recognize that such a transit could not be checked by any quarantine or *cordon militaire.* The latter measure was fully tried in Europe as long ago as 1831-32, with absolute failure; at Vienna, for example.

An *instantia crucis* against the dependence of the migration of cholera upon transmission by the channels of human intercourse occurred in France in 1884. The outbreak at Marseilles and Toulon in June of that year was made the occasion of a scrutinizing investigation. There was then no cholera elsewhere nearer than India. The Chief of the Naval Bureau of Health and the Admiralty Inspector, Rochard, declared officially that the disease was not brought by any vessels from elsewhere.

Dr. Brouardel made a special visit of inquiry to the infected cities. His conclusion, as reported to the Académie de Médicine, was published in a letter from Paris to the *London Times*, July 4th, 1884. It was to the effect that the two sailors first taken ill had not been to sea for five years, and had no communication with other vessels; and that the same was true of a person who died of cholera at the Lycée in Marseilles, June 21st, about a week after the two sailors were attacked. Brouardel affirmed decidedly that (notwithstanding a charge made against a vessel from China, all on board of it being well after a voyage of forty-five days) it was impossible for any vessel to have brought the infection to Marseilles and Toulon. Yet 5000 deaths occurred in France, mostly in those two cities, in June, July, and August, 1884.

In the *American Journal of the Medical Sciences*, July, 1873, Dr. E. M. Estrazulas presented important testimony showing that an epidemic of cholera beginning in Paraguay in 1866, and continuing as an endemic for three years, could not have been imported by human intercourse, by ships or otherwise; the peculiar circumstance of the war with Brazil making this impossible.

As to the possibility of the personal contagion of cholera in any other way than through the entrance of the stools into drinking water, some facts, now generally forgotten, but on record, may be here recalled. Dr. Austin Flint well contrasted cholera, in this respect, with typhus, smallpox, and scarlet fever.[1] In Moscow,[2] in 1831, 587 patients affected with cholera were admitted into a hospital containing 860 patients of other kinds, yet not one of the latter took the disease. Dr. Alison,[1] of Edinburgh, testified that in 1832, and in 1848-9, the dissecting-rooms of his city were almost exclusively supplied with cholera subjects; but in neither year was there a single case of the disease among the numerous students attending in those rooms. How preposterous, in view of such evidence, seems the assertion by cable, September 3rd, 1892, that a porter in Berlin was attacked with cholera half an hour after carrying to the disinfecting chamber some linen of a traveller just arrived from Hamburg! If that were so, how could any survive who handled all the linen and put it into the chambers for disinfection?

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[1] Practice of Medicine, p. 425.

[2] Brigham: History of Cholera, p. 324.

Dr. Foy[2] and ten others in Warsaw, in 1831, inoculated themselves with the blood of cholera patients, tasted their dejections, and inhaled their breaths, without taking the disease. Similar experiments were performed, with the same negative result, by surgeons and medical students at Moscow and Dantzic in 1832, and afterward by Lizars, Coste, Schmidt, Meyer, Marshall, and others. Dr. Houston, in the *Richmond Medical Journal*, in 1866, stated that a man in Wheeling, Va., lay all night in the clothes of another who had just died of cholera, without evil consequences. How unreasonable, then, is the *panic* that leads some persons to be afraid, almost or quite, of the shadow of any one who has been near a place, or a vessel, infected with cholera. We read the following in a recent cable despatch from Europe:

"Hamburgers are treated like lepers elsewhere in Germany. Hotel doors are shut in their faces, and it is impossible for them to obtain lodgings. Many of them have been known to alight from the railroad trains a few stations before reaching Berlin, and to come into the city by local trains, in order to avoid inspection. The authorities are endeavoring to stop this practice, but find it difficult to do so."

Let us hope that no such inhumanity will throw discredit upon civilization in this country.

Some other facts in the history of cholera, strangely ignored by many, need to be here recalled. In 1848 two emigrant ships, the New York and the Swanton, left Havre at a time when there was no cholera there, the former going to New York and the latter to New Orleans. Both were attacked by cholera during the voyage; one when sixteen and the other when twenty-seven days out at sea.[3] If there had been cholera at Havre when they started, no chance of so long a time of incubation for the disease could possibly be allowed by any, either of the older or of the more recent authorities.

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[1] British and Foreign Med.-Chirurg. Rev., Jan., 1854; p. 22.

[2] Gazette Medicale, 1831.

[3] Dr. James Wynne, Report of Cholera in the United States; and Dr. Gavin Milroy, British and Foreign Medico-Chirurgical Review, October, 1865.

In 1854, two of the Copes' line of packets, sailing from Liverpool to Philadelphia, at a time when there was no cholera in the former city, were attacked by cholera when many days—one of them, the Tonawanda, two weeks—out at sea. The latter vessel, after the disease had continued for several days, neared a large iceberg, which reduced the temperature of the air 30°. On the day before the iceberg was met the largest number of cases occurred; after that, no new one at all; the morbific cause appeared to have been frozen out. In April, 1866, two steamers, the England and the Virginia, left Liverpool, the former for Halifax and the latter for New York. One had on board 1202 passengers, chiefly emigrants; the other 1043, of whom 1029 were in the steerage. There was no cholera in Liverpool at that time; but both vessels were attacked, one five days and the other seven days from port. In all these instances now mentioned, the only rational explanation is that the epidemic cause *passed over the ocean through the atmosphere*, independently of human conveyance.

On account of this manner of migration, I propose a new term as applicable to epidemic cholera. It is *autoplanatic* (from *autos*, self, and *planao*, to wander); that is, wandering under causal conditions peculiar to itself, as distinguished from the conveyance of smallpox, scarlet fever, measles, etc., only through human intercourse.

In view of the facts alluded to, and others also which are particularly familiar to those who have resided in British India, it is not strange that many of those most fully and closely acquainted with cholera are convinced of the uselessness of personal quarantine as a measure for its exclusion anywhere. That view of it has been emphatically affirmed by such eminent authorities as Gavin Milroy and Sir Joseph Fayrer, in England; Stewart Clark, Payne, Bryden, and Cunningham (after thirty-three years' residence), in India; Cazalas, in France; Pettenkofer, in Germany; and Tommasi-Crudelli, in Italy.

On the other hand, *sanitary police* (including, as properly coming under that term, Dr. Joseph Holt's systematic disinfection of infected or suspected vessels) has had signal triumphs, showing that it is entitled to entire confidence for the prevention of cholera, always and everywhere. Notable instances of this might, were space here allowed for it, be narrated as occurring in the arrest of a very destructive epidemic of cholera in 1884, in Genoa,[1] by a change from a bad to a good and pure water supply for the city; a similar result at Mendoza,[2] in South America, in 1887, following the provision by the government of Buenos Ayres of means for boiling all the drinking water used by the inhabitants of the infected town; and the eradiction of an epidemic occurring for the third time on the island of

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[1] Philadelphia Times, October 6, 1884.

[2] Public Ledger, Philadelphia, 1887.

Takasima, Japan,[1] in 1887, by a thorough system of sanitary improvement, under charge of a company having in its employ a large number of laborers on the island.

Shortening the time of detention at quarantine to three, four, or five days, sufficient for thorough disinfection of all suspected *fomites*, is a most beneficial improvement on the old-time forty days' imprisonment on board or at a lazaretto. This is in the direction of scientific as well as humane progress. There is room for further progress in the same direction. It is within the power of the medical profession at the present time to render a great service to commerce, as well as to philanthropy, by urging the immense advantage of thorough sanitary police over any and all measures of quarantine in the certain and perpetual prevention of epidemic cholera.

THE TREATMENT OF CHOLERA.

By Roberts Bartholow, M.D., LL.D.,
OF PHILADELPHIA.

Personal experience during two epidemics of cholera will, I trust, be considered some justification for adding another to the numerous papers that have appeared on the subject of cholera. Unfortunately, it cannot be said that the lessons of experience have been fruitful in curative results, but they afford unmistakable indications as to the direction our efforts should take in the future, and they have settled opinions as to the practical value of many of the proposed remedies. Until Koch's discovery of the comma bacillus, there had been no scientific basis for the therapy; but even now, with all the aid afforded by this great fact, the problem of a cure for cholera remains unsolved. The mortality rate continues nearly at the same level; and although the epidemics have lessened in severity, these facts only show that sanitation has done much, whilst therapy, if not impotent, has been at least unequal to its prescribed task.

The theory of a cholera-seizure, based on the existence and agency of a specific microbe, may be stated as follows:

The parasite, reaching the intestinal canal by any of the several channels of communication, finds there a suitable nidus, and undergoes pullulation, increasing enormously in numbers, and producing as a result of its vital activity a peculiar poison—a ptomaïne—and on the action of this morbid material depends the systemic symptoms as they successively arise. First, we have the evidences of a local irritation—the cholera-diarrhœa—due to the presence and development of the bacillus on the surface of the mucous membrane. Next is the stage of systemic infection, due to the absorption of the ptomaïne, quickly followed by the algid state, and then, should reaction occur, a typhoid condition. An important chemical change also takes place, consisting, for the most part, in an increased alkalinity of the intestinal juices and of the blood. Coincidently with these alterations occurs an extraordinary change in the mucous membrane; its epithelial layer is detached more or less completely, and the basement membrane laid bare. The normal functions are necessarily abolished, and the transudation from the blood vessels is enormously increased. This outward diffusion of the blood-serum makes the blood thick, and its movement in the vessels sluggish, and the blood globules become so much changed in structure as to be unable to functionate.

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[1] Sanitary News, March 26, 1887.

Such is the "therapeutic diagnosis" on which we now base our measures for relief.

The first point is to arrest the preliminary diarrhœa. There are three indications for the use of remedies: the presence of a parasite in process of pullulation; the excessive alkalinity; the diffusion of the blood-serum from the vessels into the intestinal canal.

Of all the remedies proposed for the arrest of the diarrhœa, not one has done so much good, in the writer's experience, as sulphuric acid. It is usual, and generally best, to combine some opium with it, according to the formulæ here given:

℞.—Acid. sulphuric. aromat. . . . . ʒv.
Tinct. opii deodorat. . . . . ℥iij.—M.
Sig.—From ten to twenty drops every hour or two in sufficient water.
℞.—Acid. sulphuric. dil. . . . . ʒiij.
Tinct. opii camph. . . . . ℥xiij.—M.
Sig.—A teaspoonful every half hour in water.

Sulphuric acid is a germicide; it neutralizes the alkalinity of the intestinal canal, and promotes diffusion into instead of outward from the vessels. During past epidemics opium has had an important place as the principal, or the adjunct, or associated remedy. The experience of the present epidemic is against the use of large doses of opium, because of the narcotism, and the paralytic state of the intestine thereby induced. On the other hand, small doses, especially for the control of the preliminary diarrhœa, are quite indispensable. I find that amongst those who are against the free use of opium is Rumpf,[1] whose observations were made in the New General Hospital at Hamburg during the present epidemic, and also the veteran Ziemssen.[2] Both, however, find small doses useful in certain conditions, amongst which the preliminary diarrhœa is most important. So necessary is opium during the first stage that all the formulæ most popular during the past and present epidemics contained it. I may mention the preparation of Squibb, which is largely used now as formerly. This contains rhubarb, aromatics, and the deodorized tincture of opium. According to Meyer, the prescription here given was employed for a diaphoretic action, and for the diarrhœa a decoction of rhatany, with tincture of cinnamon and tincture of opium :

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[1] Deutsche med. Wochenschr., 1892, No. 36. Abstract in Centralblatt fur die gesammte Therapie, November, 1892.

[2] Munch. med. Wochenschr., 1892, No. 41. Ibid., Dec., 1892.

Münch. med. Wochenschr., October, 1892, p. 591 :

℞.—Ol. menth. pip.	. . . . .	gt. j.
Tinct. opii	. . . . . .	*m*xx.
Tinct. rhei vin. Tinct. capsici	}	aa ʒj.
Spirit. vini gallici	. . . . .	℥ij.—M.

Sig.—A teaspoonful in black tea.

Ziemssen advises fifteen drops of the tincture of opium in infusion of chamomile as an enema, to restrain the diarrhœa. In India, chlorodyne —the original nostrum—has had the first place as a remedy for all stages of the disease. This preparation contains two ingredients of especial value, namely, morphine and atropine. Also, pills of lead acetate and opium, of tannin, capsicum and opium, of camphor and opium—with or without tannin and capsicum—were largely employed. Indeed, it is impossible to name the various combinations in which confidence was reposed, each physician having his special pill or mixture. I should mention, also, that homœopathy had its favorite remedy in Rubini's solution of camphor—a saturated solution in alcohol. Almost any of the various combinations of remedies proved equal to the arrest of the preliminary diarrhœa, if administered early enough. The case was far different when systemic infection occurred.

During the existing epidemic the treatment of cholera-diarrhœa has been attempted on a scientific basis, and various new remedies have been brought into use. The modern doctrine of antisepsis and the discovery of the cholera bacillus have led to the employment of germicides, which are administered with the view to arrest the development and to destroy the product of the cholera microbe. But conclusions drawn from the results of the treatment of cholera-diarrhœa can be depended on only when bacteriologic examinations have shown the presence or absence of the cholera bacillus. The severity of the diarrhœa is not a means of differentiating, for it has been found that in very mild cases the bacillus may be present,[1] and in cholera morbus there may be all the symptoms of true cholera, without a single parasite in the intestinal canal. In the absence of a proper bacteriologic diagnosis, the curative action of any remedy cannot be determined.

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[1] Dr. William Russell : London Lancet, December 3, 1892.

The remedies from which the most has been expected were salol and creolin. From a theoretic standpoint nothing could be more appropriate than the action of salol, for this substance is supposed to pass through the stomach unchanged and to be separated into its constituent elements—salicylic acid and phenol—by the alkaline intestinal juices; but the practical outcome has not been so fortunate as its promoters hoped for and predicted. At the Moabit Hospital in Berlin,[1] and at the New General Hospital in Hamburg,[2] salol and creolin were found useless. From my observation of the effects of naphthalin in the various forms of diarrhœa, I am inclined to believe that this remedy promises well. As under ordinary circumstances it affects the whole intestinal canal, deodorizes the stools, and restrains the peristaltic movements, it should under the different conditions of a true cholera attack accomplish similar results. Naphthalin may be combined with bismuth and carbolic acid, and opium may enter into the combination, if necessary:

℞.—Naphthalin	ʒss.
Bismuthi salicylat.	ʒij.
Acid carbolic.	ʒss.
Glycerini.	℥ss.
Aquæ chloroformi	℥jss.—M.

Sig.—A teaspoonful every half hour, hour, or two hours.

The experience of the present epidemic is in harmony with that of preceding epidemics as regards the utility of calomel as a remedy for cholera, but on very different grounds. Now it is regarded as the most efficient of the antiseptic remedies. Formerly it was given in truly massive doses—from ℈j to ʒj—to arrest vomiting, to secure "a change in the secretions," and to bring about bilious evacuations; and it was also administered in small doses (from ½ gr. to 2 grs.) to arrest voming, to act on the liver, and to exert its specific action on the gums; for it was not uncommon to hear a practitioner say, "If only the gums were touched," the case would take on a different aspect.

Rumpf maintains the superiority of calomel as a remedy over all other remedies that have been used thus far in the treatment of cholera. Ziemssen also strongly advocates it, administered in somewhat larger doses—usually giving a large single dose (8 grs.) at the outset, and smaller doses at short intervals thereafter. At the Hamburg New Hospital the initial dose was 4 grs., and subsequently every two hours 0.02–0.05 grams [=⅓–¾ gr. nearly] (Rumpf). The administration of the calomel was kept up during the first and second stages. Similar use was made of calomel at the Moabit Hospital, Berlin.

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[1] Russell: Lancet, December 3, 1892.

[2] Rumpf: Centralblatt fur die gesammte Therapie, November, 1892.

Enteroclysis has come into use during the present epidemic. The method of Cantani, who is the author of this expedient, consists in irrigating the intestine with a solution of tannic acid. His directions are to take from 5 to 10 or 20 grams [1¼ ʒ to 2½ ʒ or 5 ʒ] of tannic acid in from 1½ to 2 liters [1 to 2 quarts] of hot water or chamomile infusion, and to this add from 20 to 30 drops of laudanum, and suspend by means of gum arabic from 30 to 50 grams. The temperature should be from 38° to 40° C. [99° to 104° F.]. With this the intestine is irrigated. A fountain syringe with a glass reservoir, properly sterilized, is a suitable apparatus for this purpose. Views differ as to the utility of this procedure. At Hamburg and Berlin it was found useless; but Ziemssen, probably on theoretic grounds, urges its use at all stages. It is difficult to understand how irrigation of the large intestine can modify a morbid process going on in the small intestine; for nothing is more certain than that an injected fluid does not pass beyond the ileo-cæcal valve. It is not surprising, therefore, to learn that actual experience with this treatment is not in its favor, notwithstanding Ziemssen's ardent advocacy, and Cantani's sanguine expectations.

So long ago as 1834, *infusion* of salines into the veins was practised. It had been seen at this early period how much injury the enormous outpouring of serum must inflict on the constitution of the blood, and on the circulation, and during every epidemic since attempts have been made to arrest the algid stage by supplying fluid to the veins, with marvellous immediate effect, but without permanent results. The modern expedient is less complicated than the operation for transfusion as originally performed. Now a simple reservoir for containing the fluid, a flexible tube, and a needle-trocar for perforating the vein, suitably sterilized, are the instrumental means required. The saline solution most used is one containing sodium chloride and sodium carbonate. Hayem's solution consists of common salt 5 [= ℥j and ʒv], Glauber's salt 10 [= ℥ij and ʒij], distilled water, sterilized, 1 liter [= 1 quart]. Cantani's solution contains 4 [= ʒi] of sodium chloride, and 3 [=48 grains] of sodium carbonate in 1 liter [=1 quart] of water. The ordinary salt solution, properly sterilized, and at the right temperature, suffices.

Cantani[1] proposed the subcutaneous infusion of a saline solution as a substitute for the intravenous method. The term *hypodermatoclysis* has been contrived to designate this procedure. The apparatus required for the performance of this method consists of a reservoir for the fluid, a flexible tube, and a hypodermatic needle. The axillary region, the buttocks, and the interscapulary and subscapular spaces are suitable sites for the infusion. To secure the admission of a sufficient quantity of fluid, the infusion may be allowed to continue for some time (Samuel's continuous method).

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[1] Centralblatt fur die gesammte Therapie, October, 1892. From Berliner klin. Wochenschr., No. 37, 1892.

Saline infusion is also practised by introducing the fluid into the peritoneal cavity. The same apparatus as that used for the subcutaneous method may be employed for this operation. The experience with the peritoneal transfusion is very limited for the present epidemic, and it need not, therefore, be considered here.

Infusion of salines is adapted to the treatment of the algid state, to supply a material to the blood—the serum—which has been lost.

If the immediate effects of the intravenous infusion could be fixed in is permanent state, nothing could be more effective than this mode of treatment. Unfortunately, the immediate and astonishing improvement is not sustained for any considerable time ; in most cases a repetition of the injection becomes necessary in a few hours ; the improvement each time is less decided, and still shorter in duration, until finally the injection is without effect, and profound and fatal collapse ensues. The mortality in cases treated by intravenous infusion in the New General Hospital at Hamburg was, in a group of 103 cases, 87, the rate being therefore 84.5 per 100, thus showing but little influence over the results in cases of the algid state.

As compared with hypodermatoclysis, the advantage, slight as it is, remains with intravenous infusion. The remarkable change at once manifest in the condition of the patient when the route by the veins is pursued does not occur to nearly the same extent when the subcutaneous infusion is practised ; the effect comes on more slowly, and the result, as shown in the mortality following these methods, does not favor hypodermatoclysis. Rumpf declares that the subcutaneous method is not nearly equal to the intravenous infusion in the algid state. Both modes of treatment were much employed in Hamburg. In the two hospitals—the New and the Old General Hospitals—the method of intravenous infusion was more used, and in private practice throughout the city the subcutaneous, especially the continuous method of Samuel, because of the greater care and safety with which it is done, and no assistant being required. At the Moabit Hospital in Berlin, Dr. Guttmann preferred the subcutaneous infusion of salines, and at Koch's Institute the intravenous method was the favorite.[1]

From these facts it is evident that a final decision has not been reached regarding the comparative value of these plans of treatment; but it seems to me nearly certain that in the algid state, with fatal collapse imminent, it were better to resort to the intravenous method. In private practice, hypodermatoclysis is preferred by most of the Hamburg physicians, because an assistant is not needed and the injection is entirely safe, although abscesses have resulted in some instances. The large amount of fluid considered necessary, which is forced under the skin, explains the mishap. Irrespective of this, and considered from the point of view of the results in blood transfusion, it is my belief that the quantity of fluid passed into the veins by either mode is much too large, one liter [=one quart] being considered the minimum. Yet at the Hôpital Bonjean, Paris, as much as two liters were injected in twenty minutes, and without any ill result so far as reported.

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[1] Russell : Lancet, December 3, 1892, p. 1268.

A new method of treating cholera is the subcutaneous injection of Kleb's *anti-cholerin*, a toxic material obtained from cultures of the comma bacillus, after the method of Koch. This was also tried at the New General Hospital at Hamburg, and is reported on by Dr. Manchot, who compares the results of its use with the statistics of the intravenous method. Of 31 cases treated by anti-cholerin there were 21 deaths, the mortality being 67.7 per 100; whereas, of 103 cases (already given) treated by saline infusion, there were 87 deaths, the percentage being 84.5. It should be understood that these were cases of cholera already advanced to the algid stage.

As during the algid stage of cholera the temperature is subnormal, the surface is cold, and the breath cold, the application of artificial heat in the shape of bottles of hot water, hot bricks, etc., was usually practised in past epidemics. During the present epidemic hot baths have been made use of at the Hamburg hospitals. Winternitz[1] extols especially the use of cool sitz-baths and frictions of the body with towels wrung out in the water. In Hamburg, Berlin, and in Russia, but rarely in Paris, hot baths were held in high esteem during the algid stage. The temperature ranged from 38° to 40° C., or from 99° to 104° F. The immediate effect of the bath is to raise the warmth of the body and to increase the pulse rate and the depth and frequency of the respiratory movements.

The treatment of the algid stage by the use of medicaments during the present epidemic does not differ materially from that of former epidemics. There are some new remedies, however, that deserve consideration. The soluble salts of caffein were much used in Paris subcutaneously, and it is said with benefit. The diuretic action of this agent, as well as its stimulating effect on the circulation, were the chief reasons for its employment. In the Paris epidemic, especially at the Hôpital Bonjean, injections of cocaine, in the dose of 3 cg. [=gr. ss] per day, were administered with excellent results. Rumpf found no benefit from nitro-glycerin, oil of camphor, and other respiratory stimulants. Trussewitch[1] advocates the use of nitro-glycerin—two drops of the centesimal solution at a time placed on the tongue—and the hypodermatic injection of ammonia. As the mucous membrane is desquamating, it were better, no doubt, to inject the nitroglycerin or amyl nitrite beneath the skin, or administer the amyl nitrite by inhalation. From *a priori* considerations, it would appear more useful to administer these agents after the operation of infusion by either mode ; for there is apparently little utility in forcing the organs of circulation when the blood is so thickened.

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[1] Centralblatt fur die gesammte Therapie; op. cit.

For the cramps which ensue when the muscles are no longer supplied with blood, small doses of morphine subcutaneously are recommended by Rumpf and others. In the last epidemic preceding the present, chloral by hypodermatic injection was highly extolled by some observers. I have no doubt from my personal experience that it has great value, especially when combined with morphine and atropine. As the solubility of chloral is limited, ten grains at a time are all that can be given, unless several punctures are made. The following is a suitable formula :

R.—Chloral hydrat.	ʒiij.
Morphin. sulph.	gr. j.
Atropin. sulph.	gr. ¼.
Aquæ chloroforma Aquæ	aa ℥ss.—M.

Sig.—Twenty minims, repeated in ten minutes, and subsequently *pro re nata.*

It is usually better to give the chloral separately—ten grains dissolved in sufficient water—and the morphine and atropine together—from ⅛ to ¼ grain of the morphine and from $\frac{1}{120}$ to $\frac{1}{60}$ gr. of atropine. The effect of chloral on the muscular cramp of cholera is highly satisfactory. The pain ceases at once, the pulse rises, and the breathing gains in depth and volume. The last case of cholera treated by me, and one of the most severe, seemed to be rescued from a fatal ending by chloral injections. In this case, with the coming on of the cramp, the pulse became imperceptible at the wrist, and the respiration almost ceased. When the action of the chloral was felt, the surface grew warmer and pulse and respiration became more active. As, however, morphine and atropine had been given, some share in the result must be ascribed to them.

There are many other methods of treatment of cholera, and various medicaments, to which I have not referred, but this paper has already

[1] Ibid., November, 1892 ; from the St. Petersburger Wochenschr., 1892, No. 36.

gotten beyond the space it should occupy. There is, however, a practical point or two in regard to the dietetic management of the disease that I should not fail to mention. The attempt to feed a cholera patient when the digestive tract is undergoing desquamation is worse than useless. Such a preparation as beef-tea is only harmful at any stage of the disease. A little cold milk or wine-whey may be given as the state of the stomach will permit. The profound depression that occurs in these cases is a constant temptation to push the use of stimulants, and this practice is usually overdone. A moderate quantity of iced champagne, or a little brandy in ice, may be given from time to time. Thirst is excessive, and the indulgence in water-drinking is likely to excite vomiting; but, as Rumpf says, the advantages due to the free use of water more than counterbalance the injury done by a renewal or an increase of the vomiting. Carbonic acid water may agree better than simple water, or such a mineral water as Apollinaris may prove less likely to disturb the stomach. As the renal function is suspended, or nearly so, and as during the typhoid stage the restoration of this function is of the first importance, the free use of diluents may prove in a high degree useful.

A CLINICAL STUDY OF ELEVEN CASES OF ASIATIC CHOLERA TREATED BY HYPODERMOCLYSIS AND ENTEROCLYSIS.

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This evening I shall give a short description of the clinical history and treatment of eleven cases of Asiatic cholera that I had the opportunity of observing at the Swinburne Island Hospital in New York bay in September, 1892.

The first case was typical of a group that may be called mild cases, and occurred in a Russian, aged 16 years, admitted to the ward, September 9th, from the steamship Bohemia. His temperature was 99.2°F., pulse 94, and respirations 24. Three more observations, which were continued until midnight, gave the same results. The first matter vomited after admission was composed of a greenish liquid mixed with mucus. The diarrhœal discharges were whitish in color and rice-water like in character. The pulse was of fair volume; he complained of abdominal pain of moderate severity. He slept well and passed a normal quantity of urine. It is worthy of note that at no time was the temperature below normal. After remaining in the cholera ward three days he was discharged fully convalescent. The spirillum of cholera was detected in the discharges.

His treatment was as follows: Upon admission he was given ten grains of calomel, and afterward he received one grain every hour for six hours. He was also given two quarts of a one per cent. solution of tannic acid at a temperature of 104° F., by enema, every three hours. At no time was it necessary to resort to subcutaneous injections of the six-tenths per cent. solution of sodium chloride. He was also given twenty minims of whiskey hypodermatically, and occasionally one-eighth grain of morphine.

The second case well illustrates an ordinary attack of Asiatic cholera. A Russian, aged 7 years, was admitted from the steamship Bohemia, September 26th, at 8 p.m., with a temperature of 96.2° F., pulse 106, respirations 22, and the surface of the body extremely cold and cyanotic. The face was pinched, especially in the nasal region, it was markedly cyanotic, and the eyes were deeply sunken and surrounded by dark circles. The pulse was feeble and small, and was counted with difficulty. She at once received a warm plunge bath, and her stomach was then washed out with one pint of a one per cent. solution of tannic acid at the temperature of the body. Shortly afterward she vomited twenty-three ounces of fluid. She remained in about the same condition during the night, but the passage of a moderate amount of urine encouraged us to hope for a favorable issue. On September 27th her pulse was 104, her temperature 97.4° F., and her respirations 18 to the minute. The cyanosis persisted, there was no vomiting, but she had frequent copious discharges from the bowels, composed chiefly of the tannic acid solution which had been injected per anum. Later in the day improvement began, the temperature varied between 100.2° and 100.4° F.; a large semi-solid stool was passed. She slept moderately well during the night, but complained greatly of thirst. A sufficient quantity of urine was excreted, and the liquid from the bowels was composed chiefly of the tannic acid solution that had been given by injection. She became very restless, but the following day was much brighter and began to notice her surroundings. The dejecta changed in character, becoming greenish in color and somewhat frothy. On September 29th she slept well; her bowels were moved only after giving the intestinal injection of tannic acid solution. In the afternoon her improvement was so marked that it was decided to suspend these injections. Her temperature varied from 97.8° to 99.4°, the pulse between 96 and 120, and the respirations from 22 to 24. On September 30th she was able to take nourishment and stimulants by the mouth, but the stools continued brownish and thin, and when an attempt was made to administer beef-tea or any food by the mouth vomiting occurred. The cyanosis disappeared, and it was then observed that she was shrunken and emaciated. She continued to improve, and on the fourth day after admission was carried into the open air, where she received a sun-bath for two hours.

The following summary of the treatment may not be without interest. Upon admission she received a hot plunge bath. The first enteroclysis or intestinal injection was retained for three minutes, and afterward these injections were repeated every two hours. A subcutaneous injection of one pint of a six-tenths per cent. solution of sodium chloride was given the day after admission. At first whiskey was administered by the mouth, but afterward ten minims were given hypodermatically every four hours. The total duration of the patient's illness was five days, and her convalescence was extremely rapid and uninterrupted.

The third case presented the typical symptoms of Asiatic cholera, and death occurred forty-one hours after admission to the hospital. The patient was a Russian boy, aged two years, who was admitted to the ward from the steamship Bohemia at 2 p.m. He complained of pain, and vomited and purged freely. His face had the bluish and shrunken appearance that is so characteristic of this disease. The upper and lower extremities, as well as the face, were cold and cyanotic. The pulse was very weak, about 100 per minute, and the respirations were shallow, averaging forty-two per minute. The temperature was 98° F., and soon descended to 97.4° F. He made no complaint of pain, nor of muscular cramps. At first everything taken by the mouth was vomited, but soon this symptom subsided. The bowels moved frequently, the discharges were copious in quantity, whitish, and contained a large quantity of epithelium, giving them a rice-water like appearance. The patient soon became apathetic, and during the night continued to purge and vomit, and during the day the cyanosis became extreme, especially in the face and extremities. The remainder of the skin surface was whitish in color, and when a fold was pinched between the thumb and forefinger it remained elevated for some time, and then gradually resumed its former condition. The pulse became weaker, small, and increased in frequency from 90 to 100; the respirations rapid and shallow; and the temperature varied from 98.8° to 99.6° F. There was no vomiting except that which was excited by attempts to administer food or remedies. During the night he had two copious choleraic discharges from the intestine. He continued in about the same condition until his death.

The spirillum of cholera was obtained from the early intestinal discharges. The autopsy was performed six hours after death. The cadaver presented the same general appearance as has been already described. *All* the tissues and *all* the organs of the body were remarkable for their extreme dryness. Both pleuræ showed extensive old adhesions, particularly on the left side. The lungs, liver, spleen, and peritoneum were normal, but *dry.* The kidneys showed acute parenchymatous nephritis. The entire subcutaneous tissue was dry and dark, and the skin when pinched remained elevated, the same as during life. A rectal tube was introduced for a distance of ten inches, to which was attached an ordinary fountain syringe, the reservoir of which was placed at an elevation of five feet, and contained two pints of water, which was passed through the ileo-cæcal orifice, filling the small intestine and stomach.

Upon admission he was placed in a plunge bath having a temperature of 104° F., and calomel in one-grain doses was given every hour for three doses. Two pints of a hot one per cent. solution of tannic acid was injected into the intestine every two hours, and also a subcutaneous injection of half a pint of a hot six-tenths per cent. solution of sodium chloride, containing one per cent. of brandy. Every hour *m*v of whiskey were given hypodermatically, and at night oxygen was given by inhalation. All attempts to administer food or remedies excited vomiting.

The fourth case illustrates how rapidly death may occur in cholera. The patient was a Russian emigrant, aged eight years, admitted from the steamship Bohemia at 6 p.m. on September 26th. She told us that in the morning, at two o'clock, vomiting and purging began, and between the hours of 2 a.m. and 6 p.m. she had three large rice-water discharges from the bowels, and two similar discharges from the stomach. Upon admission she presented the characteristic facies of cholera. The orbits were deeply discolored, and there was a suffused reddish-purple blush over the arms, nose, legs, and feet. This cyanosis was especially marked on the left side of the neck, arm, and leg. This was due to the position assumed while on board the tugboat which was used in conveying her from the steamship to the hospital. At first she was able to say a few words, but soon became unconscious. Her respirations were very shallow, numbering thirty-five to the minute. Her axillary temperature was 96.6° F. Soon after admission she vomited a moderate quantity of light-brownish fluid, and at 8.15 p.m. she again vomited twenty-eight ounces of a liquid having the same character. At 9.15 p.m. she discharged a large quantity of rice-water liquid per rectum, and she died at 10.15 p.m., four hours and fifteen minutes after admission, or twenty hours from the appearance of the first symptom of the disease.

Upon admission she received a hot plunge bath, and fifteen minutes thereafter her stomach was washed out with one pint of solution of boric acid at the temperature of the body. At 8.45 p.m. she received an enteroclysis of two pints of one per cent. solution of tannic acid at a temperature of 104° F., which was rejected. At 9 p.m. oxygen was used freely, and at 10 p.m. a subcutaneous injection of two pints of distilled water, containing six-tenths per cent. of sodium chloride and one per cent. of whiskey, was administered. From time to time whiskey was given by the mouth. Oxygen was continued until her death.

The autopsy was performed eighteen hours after death. *Rigor mortis* was extreme ; the entire skin surface was dark-bluish in color, as were also the matrices of the nails. The body was considerably shrunken and emaciated. There was but little subcutaneous fat. Both pleuræ were free from adhesions. The lungs were collapsed, dark in color, but otherwise normal. The thymus gland was unusually large, measuring three by two inches. The right ventricles were contracted, and each contained a moderate-sized clot. The ventricles and auricles and cavæ were over-distended with blood, coal-black in color, and tar-like in consistency. The small intestine showed exfoliated epithelium and injection of the blood vessels. The heart muscle and pericardial sac were normal. The liver was moderately enlarged and the right lobe was unusually flattened at its base, and its entire surface was mottled with irregular areas of a whitish wax-like material passing into the substance of the liver. The left lobe of the liver was infiltrated more uniformly with the same material, but its consistency was normal. The gall-bladder was over-distended with a thick dark-green bile, containing mucus. The kidneys were cyanotic, but otherwise normal. The spleen was normal in size, and its pulp was black in color and glutinous. The bladder contained about two drachms of pale urine. The gastric and intestinal contents were typical in appearance, and contained the spirillum of cholera. There was complete suppression of urine. The skin and subcutaneous tissues were so dry that, when pinched, the fold remained for several minutes.

I beg your indulgence while I narrate the history of case five, the most interesting of all observed, and where we were fortunately able to note minutely every change that took place from the beginning to the end. This patient exhibited nearly all the symptoms of a typical malignant case of Asiatic cholera, illustrating also, in an equally striking manner, the results obtained by treatment.

This patient, a male, aged 24 years, a native of Germany, was admitted to the Swinburne Island Hospital on September 27th, 1892, at 11 a.m. His muscular and osseous systems were unusually well-developed, and it was reported that he was perfectly well on the morning of September 27th until 4 a.m., when he first complained of pain in the abdomen, which was followed by two loose stools. He continued feeling well until we saw him at 10 a.m., when, in view of the diarrhœa, it was deemed wisest to remove him to the hospital, although his general condition did not indicate that he was suffering from cholera. He objected strongly to his removal, and said that he felt perfectly well. He walked from his berth to the side of the ship and down a rope ladder to the quarantine tugboat. He arrived at Swinburne Island and reiterated his statement that he felt perfectly well, and walked from the quarantine boat to the door of the hospital, when *suddenly* he complained of weakness in the knees, and fell to the ground in a state of collapse. He was carried to the ward in a condition of partial stupor, from which he was easily aroused. He responded to all questions in a manner showing that his consciousness was perfectly preserved. Soon he complained of agonizing cramp-like pains in the arms, feet, and knees, which recurred more or less regularly at intervals of thirty minutes. Immediately after his admission his countenance presented the typical appearance of cholera. The eyes were deeply sunken and surrounded by dark circles ; the pupils were contracted to the size of a pin-point. The lips, cheeks, arms, hands, legs, and feet were cyanotic, and the entire skin surface was dry, and when the skin was pinched it remained elevated and compressed for several minutes. There was no pulse at the wrist. The temperature was 98.5° F., the respirations shallow and 18 per minute, and the voice whispering. I was unable to detect any special coldness in the expired breath. He was at once placed in a hot plunge bath having a temperature of 104° F., and was given four pints of a one per cent. solution of tannic acid at a temperature of 104° F. ; also two pints of distilled water at a temperature of 100° F., containing $\frac{6}{10}$ of one per cent. of sodium chloride and one per cent. of whiskey. He responded but slightly to this treatment ; the pulse was scarcely perceptible, was filiform in character, and about 100 per minute. At 11.30, or thirty minutes after his admission, he complained of intense agonizing pain in the legs, feet, and hands. These cramps forced the feet into extreme extension, and twisted and distorted the fingers. The pain was so great that it became necessary to administer a hypodermatic injection of one-eighth grain of morphine. The hypodermoclysis and enteroclysis were repeated. Camphor was given him hypodermatically. He inhaled oxygen constantly, hot bottles were applied to the extremities, and hot air was conducted under the bedclothing from a large steam radiator. He now vomited a large quantity of a clear liquid, and passed several copious rice-water discharges from the bowels. His collapse deepened ; the pulse became slow, feeble, and almost imperceptible ; and his respirations shallow. His intellection was clear, and his condition is best described by the word "terror." At 2.30 p.m., or three hours and thirty minutes after admission, he was extremely restless and anxious, and the choleraic intestinal discharges continued. He moved from side to side, tossing the arms about wildly, and calling aloud for air. The hypodermoclysis was repeated, and hydrochloric acid and brandy were administered by the mouth. At 5 p.m. he was pulseless, and complained most bitterly of intense pain, produced by the tonic spasm of the muscles. These cramps were so violent that the muscles were knotted and felt board-like. At 6 p.m. the hypodermoclysis was repeated ; the pulse was scarcely to be felt, and thirty minims of whiskey were given hypodermatically and repeated for five doses, but with no effect. He now passed two copious liquid stools containing whitish shreds composed of intestinal epithelium, giving the discharges their rice-water like appearance. At 6.30 p.m. he passed three more stools, and at this time we were unanimously of the belief that he must speedily die. At 7 p.m. he showed slight reaction ; his extremities became a trifle warmer, and the pulse more easily counted. At 10 p.m. hypodermoclysis and enteroclysis were repeated, and a hypodermatic injection of twenty minims of whiskey was given every thirty minutes until 1 p.m. At 11 p.m. the intellect was clear ; the eyes were horribly sunken and surrounded by dark circles ; the nose pinched ; the face shrunken ; the voice whispering, and so feeble that he was compelled to rest between words in replying to questions. He now complained of pain in the chest and renal regions. His extremities grew warmer, and perspiration was visible on the trunk. This symptom was peculiar and rare, as in none of our other cases was perspiration visible. The mental condition—terror—persisted. At this time he ejected large quantities of rice-water liquid by five acts of emesis. At 1 p.m., September 28th, this slight improvement continued, and the hypodermoclysis and enteroclysis and hypodermatic injections of whiskey were repeated. At this time he had three movements of the bowels which were composed of the tannic acid solution given by injection. A 5 a.m. a hypodermoclysis and a subcutaneous injection of whiskey were administered, and at this time the improvement was quite marked, and he slept quietly for a few hours. At 8.30 a.m. the enteroclysis was repeated and the whiskey suspended. At 9 a.m. his physiognomy underwent a truly remarkable change for the better ; the face became slightly flushed ; the ghastly, deathlike pallor disappeared ; the expression about the eyes became more natural, and the entire skin surface, especially that of the extremities, was warm, and the pulse was of full volume, soft in quality, regular, beating 100 per minute. At 11 a.m. it seemed incredible that such wonderful changes could have occurred in the twenty-four hours which had just elapsed. At 10.30 a.m. the enteroclysis was repeated, and at 10.50 a.m. the pulse was full, regular, soft, and 88 per minute ; the respirations were normal, and the expression good. He responded intelligently to questions, and the improvement continued.

In both flanks, where the needle had been inserted repeatedly for the subcutaneous injection of the sodium chloride solution, the tissues were hyperæmic and sensitive to the slightest touch. No extravasation of blood occurred, and in three days these symptoms disappeared. At no time was a single drop of urine excreted. In ordinary cases the rate of absorption, after the hypodermoclysis, varies between forty and sixty minutes, whereas in this case three hours were required, thus showing that the power of absorption had been almost abolished. So soon as the liquid was absorbed a second enteroclysis was given. Hypodermatic injections of twenty minims of whiskey were repeated almost hourly until midnight. He passed a good night, vomiting but twice, and had dark-colored stools. His general condition remained unchanged. On September 29th he received champagne, and now recognized that he was convalescent. He was given whiskey and seltzer water, equal parts, every three hours, and at 10.45 a.m. for the first time, precisely forty-eight hours after admission, he passed one pint of urine. The examination of this urine showed a distinct trace of albumin; no sugar; a sp. gr. of 1024; an acid reaction; and in the sediment numerous granular tube-casts. The liquid movements continued every two hours; and again he passed a normal quantity of urine. On September 30th the diarrhœa continued to average one stool every two hours, the quantity passed was small, and the color had become dark. The patient was excessively irritable and nervous. He improved slowly for two days, and then sank into a typhoid state.

There was no enlargement of the spleen or elevation of temperature.

As we feared, but little improvement occurred, and the typhoid state continued until death, which took place on October 5th, or eight days after his admission to the hospital.

The *post-mortem* examination revealed the ordinary changes that are found in cholera; the kidneys showed a severe grade of acute parenchymatous nephritis.

The sixth case was of moderate severity, and the occurrence of an acute gastritis seemed to act as a predisposing cause. He was a native of Russia, aged 12, admitted from the steamship Rugia to Swinburne Island on September 8th as a cholera suspect, suffering with diarrhœa and vomiting. The fluid ejected was light in color and large in quantity. He soon improved and was placed at work filling wine bottles, and drank freely of the red wine until he became thoroughly intoxicated. He thereby acquired an acute catarrhal gastritis, the symptoms of which increased on the following day, and soon afterwards he vomited and purged large quantities of rice water like liquid. His temperature, pulse, and respiration remained normal. He rapidly grew worse, and soon passed into a stage of collapse. On September 13th his diarrhœa continued; he passed a normal quantity of urine, but there had been no vomiting for several hours. The stools were light in color, largely admixed with the tannic acid solution which had been injected per anum. The temperature remained normal.

On September 14th the diarrhœa continued, and frequent vomiting occurred. The urine was normal in quantity and appearance. The small quantities of whiskey given by the mouth were promptly rejected.

On September 15th vomiting was frequent, with excessive retching and choking, and there was considerable abdominal pain complained of. The urine became scanty and rather high-colored.

On September 16th the temperature was 97° F., respiration slow and labored, pulse very weak and scarcely perceptible, beating 100 per minute. Complaint was made of excessive weakness and restlessness. The face and upper and lower extremities became cyanotic. After the subcutaneous injection of a quart of hot liquid containing three-tenths per cent. of sodium chloride and one per cent. of whiskey, his pulse became stronger, and a marked improvement in his general condition was noted.

On September 17th he complained of considerable pain in the lower abdominal region, with great restlessness; the vomiting decreased in frequency and amount, and the patient gradually grew stronger.

On the 18th he was stronger, and on the 22nd he was discharged from the ward. Bacteriological examination of the dejecta showed the presence of the spirillum of cholera.

Treatment. In the beginning he was given a hypodermoclysis every two or three hours, averaging a pint, and this was continued in conjunction with enteroclysis, three to six pints, at intervals of four or more hours, according to his condition. Twenty minims of whiskey were given hypodermatically, and oxygen was administered p. r. n. His diet was liquid, chiefly composed of milk and beef juice.

The seventh case was unusually mild, and was interesting from the total absence of vomiting. He was a native of Russia, aged 10, admitted from steamship Candia, September 14th, with choleraic discharges which continued during the next day, and ceased September 16th; at no time was there vomiting. The spirillum of cholera was detected in the dejecta. He was discharged on September 19th. Treatment: calomel, grs. vj; enteroclysis every four hours until three were given. No hypodermoclysis.

The eighth case was one of great severity, with marked gastric symptoms; recovery in ten days. The woman was a Russian, aged 28; was admitted from the steamship Scandia on September 10th with the diagnosis of cholera, complaining of continuous vomiting, which was at first associated with a burning sensation in the epigastrium. Her extremities and face were cold and cyanotic, and her physiognomy was typically choleraic. Her intestinal discharges were copious and frequent and rice-water like in appearance. So many patients were admitted at this time that it was impossible to make careful observations regarding the pulse, temperature, and respiration. For several hours she was pulseless, respiration shallow, 20 per minute, and temperature 97° F. On the following day vomiting and diarrhœa were almost continuous. On September 12th she had but one intestinal discharge, but the vomiting continued almost constantly, and was rice-water like in character. Medicines and food when administered by the mouth were immediately rejected. September 13th, vomiting still continued; towards the close of the day some liquid ejecta were bile-stained; there was no intestinal discharge. On September 14th vomiting continued, but still no movement of the bowels, though enemas were given at 9 a.m. and 6 p.m. with the idea of securing evacuations. On September 15th, vomiting continued with much less frequency, and a stool was secured by enema. On September 16th, there were numerous acts of vomiting and one normal stool. On September 18th, she was convalescent, and on the 21st was discharged from the hospital. The spirillum of cholera was found in the matter vomited.

Treatment. At first she received a plunge bath, the water having a temperature of 104°; enteroclysis, two quarts, for two days, and one hypodermoclysis of two pints of the saline solution. Attempts were made to administer champagne and whiskey by the mouth, but they were both rejected. On September 13th, she received ten grains of calomel, which was repeated on September 15th. Ten drops of hydrochloric acid were given from time to time.

The ninth case, like the sixth, would seem to illustrate how an acute gastric irritation or catarrh increases the susceptibility to cholera. It is probable that he was infected during his stay in the hospital, inasmuch as there was no cholera on board the ship for some days; he showed no choleraic symptoms until the evening of the second day after his admission to the cholera ward. He was a Polish Jew, aged 18, a butcher by occupation, and a steerage passenger on the steamship Bohemia, which arrived on September 15th. He was admitted to the wards on Swinburne Island on September 21st. He had a well-developed osseous and muscular system, and seemed fairly strong. The face was of a dark-red color, especially in the nasal and maxillary regions; the eyes were deeply sunken, with dark lines surrounding them; but the intellect was clear; the tongue was pointed, and its dorsum was covered with yellowish-brown fur.

The first symptom was diarrhœa, which was repeated three times during the day. While on the ship he was bottling wine and drank to excess, and, in consequence, he had several attacks of vomiting, which were accompanied by great pain and retching. On the morning of September 21st he was quite well, and was discharged from the convalescent ward, and during the night he had three large passages, which were fluid, yellow, and painless. On September 22nd he had three intestinal movements, liquid and yellow, in which floated shreds of intestinal epithelium. The next day movements occurred smaller in amount and less frequent, and there was no vomiting; the urine was scanty. The rectal temperature was 100.6°; pulse 98; respirations 19. He gradually improved, and on September 27th was discharged.

On September 20th the stools were dark in color, fluid, frequent, and mixed with mucus. The temperature was 98°; pulse 97; and respirations 18; at 9 p.m., temperature 97.4°; pulse 96; and respirations 16. He was very restless, and complained of an obscure uncomfortable laryngeal sensation, which seemed to be more of a paresthesia rather than a pain. He passed a good night, and a sufficient quantity of normal urine was excreted. September 21st, temperature during the day was 99.2°; pulse 94 to 96; respirations 20 to 18. Three moderate-sized whitish watery mucous stools were passed; the patient sat up during the day, but complained of pain in the left side; he excreted in twenty-four hours 46 fluid ounces of urine. His improvement was so rapid that he was directed to sit up, and sent to the convalescent ward. During the night he became worse and diarrhœa returned, and he was again placed in the wards. September 26th, temperature was 98.5° to 99°; pulse 98 to 97; respirations 15 to 24. He passed three watery yellowish stools, and slept on and off during the day, and said that he felt much better. At no time was pain complained of. He passed thirty-two ounces of urine during the past twenty-four hours. September 23rd, temperature 99° to 99.5°; pulse 76 to 80; respirations 16 to 22. He had passed six light-colored, yellowish, liquid stools; there had been no vomiting; the urine was passed in normal quantities, and he had been able to sleep fairly well. September 24th, pulse and respiration normal; sleep normal; no vomiting; and there were but three yellowish watery stools, and the urine was normal in quantity. September 25th, pulse, respiration, and temperature normal; three liquid stools. September 26th, he was discharged from the convalescent ward.

Treatment. Calomel, ten grains, followed by one grain every hour for six doses. Enteroclysis, Ovj, every two hours; whiskey hypodermically, to the extent of drachms ij, which was administered during the night Beef tea and seltzer water p. r. n. September 21st, an enteroclysis was given every four hours, and whiskey, drachms ij, was given by the mouth every four hours. September 27th, rectal injections of tannic acid solution were discontinued, and a light, easily-digested diet was ordered. September 23rd, enteroclysis was resumed, and on September 24th Squibb's cholera mixture, one drachm, was given t. i. d. Whiskey, drachms ij, was given three times daily, as it was necessary, to stop enteroclysis and hypodermoclysis.

The tenth case requires no special comment, and occurred in a man aged 18, who was removed from the steamship Bohemia to the ward of the hospital on September 20th. On admission, his temperature varied from 99.4° to 99.6°; pulse 98 to 100; and respiration 20 to 24. He had considerable abdominal pain and diarrhœa, and vomited continuously a greenish watery liquid.

September 21st, respiration and temperature about the same; on several occasions a yellow-greenish liquid was vomited, and five liquid movements occurred during the day. He slept well; the urine that was passed was normal in appearance and quantity. September 21st, pulse, respiration, and temperature unchanged; the vomiting and diarrhœa were frequent, and the ejecta were milk-like in color and small in quantity, and contained some mucus. September 23rd, frequent vomiting of a yellowish liquid. One small stool passed normally. He complained of but a moderate amount of pain in the abdominal region, and slept well. September 24th, no complaint of pain; pulse, temperature, and respiration unchanged. On September 25th he was considered convalescent, and was discharged the following day.

Treatment. Upon admission he received a hot bath, and was given ten grains of calomel; whiskey was given every four hours by the mouth, but it was rejected, and we were compelled to resort to hypodermic injections of ten minims thrice daily. September 21st, whiskey every four hours was ordered, and one enteroclysis of two pints was administered. September 22nd was a repetition of September 21st, and on the 23rd whiskey was administered by the mouth in two tablespoonful doses every four hours, and a hypodermic injection of one-eighth grain of morphia for abdominal pains.

The eleventh and final case was one of great severity, and we attributed the favorable result largely to the treatment employed. It occurred in a girl, aged six, admitted from the steamship Bohemia, September 27th, at 11 a.m., in a state of marked collapse, with coldness of the entire surface and with the characteristic facias of Cholera Asiatica, and cyanosis of the face and upper and lower extremities. Her mental condition is best described by the word "stupor." Her pulse was scarcely perceptible, and very rapid. She had frequent attacks of vomiting and diarrhœa, and the stools were fæcal and dark in color. Her respirations were labored, shallow, and 22 per minute. The pulse was 122. No urine was excreted. The temperature was 97.8° F. On September 28th the vomiting continued, and there were but two liquid stools. In the afternoon a moderate quantity of urine was passed—the first for thirty hours. The passage of the urine in our cholera cases was always viewed as a most favorable indication. The pulse improved in force and volume, the respirations were slow and labored, and the temperature was normal. On September 29th the pulse still showed signs of increasing strength, averaging 100 to the minute; the respirations were quiet and 20 per minute; the temperature normal, and a fair amount of sleep was secured. There had been but one liquid intestinal movement, and a sufficient quantity of urine had again passed. On September 30th there was one act of vomiting, which seemed to have been excited by the remedies administered. The respiration was normal and the temperature remained unchanged, and the pulse was small and weak, 100 per minute. But two loose intestinal discharges occurred. The improvement continued, though she remained in a partial typhoid state. The urine was passed in moderate quantities, and in a few days she was discharged from the hospital.

Treatment. Upon admission she received a hot plunge bath, an enteroclysis, a hypodermoclysis, and camphor and ether *m.* xx hypodermically. Oxygen was administered p. r. n. She had hypodermic injections of *m.* x of whiskey every two hours for five days. The enteroclysis was repeated every two hours, and hypodermoclysis but once. On the following day, September 28th, the enteroclysis was given at 9 and at 11 a.m., and at 1 p.m. the second hypodermoclysis was administered. The hypodermic injections of whiskey were persisted in. On September 29th, the hypodermoclysis was administered at 1.30 p.m., and the enteroclysis at 1 and 5 a.m., and the hypodermic injections of whiskey were given at 10 a.m. and 4 p.m. September 30th, hypodermoclysis and enteroclysis were suspended, and seltzer water and tincture of senna were administered by the mouth. October 1st, improvement continued, and during the day there were but two loose, dark-colored stools, and no vomiting.

Mortality. Of the eleven cases of cholera under my personal observation, eight recovered and three died, which is a mortality of 27 per cent. As one of these cases died two hours after admission, it could be fairly excluded in giving the percentage of deaths of cases under treatment, which would reduce this mortality to 18 per cent.

The total number of cases admitted to the Swinburne Island Hospital was seventy-two, and the number of deaths was twenty, or a general mortality of 27 per cent. In addition, fifty-six suspects were admitted, of whom forty-six presented the prodromic symptoms of cholera. If these were included, our mortality would be reduced to 17 per cent. The mortality from all cases under treatment, including the forty-six suspects and excluding the deaths occurring within two hours after admission and those deaths occurring later from complications, would be 11 per cent.

The mortality of the cases of cholera that occurred on shipboard varied between 50 and 98 per cent., while the percentage of deaths in Hamburg varied between 50 and 60 per cent.

In considering the number of deaths in relation to the question as to how far the treatment was responsible for this low rate of mortality, it is well to remember that most of our patients were half-starved, rachitic, and anæmic Russian emigrants, many of whom were children ; that they were in a specially weak condition, due to the long voyage and also to the fast days which their religion imposed upon them ; that the premonitory stage in the epidemic was present to a slight degree or not at all; that many died before the treatment could be inaugurated; and that this epidemic was especially virulent.

Despite these unfavorable circumstances our general mortality was but 27 per cent., while that of Hamburg was from 50 to 60 per cent. After a very careful deliberation, in which we discussed everything that could have influenced the percentage of mortality, we were convinced that it was chiefly due to the method of treatment employed.

Treatment. As to prophylactic treatment, the rules found necessary were both few and simple. Each of us wore a separate suit of clothes for the hospital, and avoided physical contact with patients except when it became necessary. Regularly, each time after examining a cholera case, we would wash the hands thoroughly with hot water and soap, afterward immersing them in a 1 : 500 solution of bichloride of mercury. The convalescents and those employed about the hospital were instructed to drink a lemonade of ten drops of hydrochloric acid to the glass of water. No ordinary water was used, and we drank exclusively of carbonated distilled water or Apollinaris water. All foods were thoroughly cooked, and green vegetables, salads, and indigestible foods were avoided. These precautions were so effective that, despite the dense ignorance of the people under our care, but two cases of cholera originated on Swinburne Island. In both instances these emigrants drank red wine until they became thoroughly intoxicated, and this was followed by acute catarrhal gastritis and infection by the spirillum of cholera. We had no experience in the treatment of the primary stage, as all our cases were fully developed when they came under observation.

In the treatment of the stage of collapse the patient was first immersed in hot water, and then given a subcutaneous injection of a quart of hot, sterilized water, containing six-tenths per cent. of sodium chloride and one per cent. of brandy. This procedure is known by the name of hypodermoclysis. The first injection in an adult may be one or two quarts. In but one of our cases did an abscess form. Usually the only complaint made when this operation was frequently performed was sensitiveness and pain on light pressure over the region of the punctures. In favorable cases absorption takes place in from thirty to forty-five minutes; but in those cases where collapse approached death, as long as four hours may be required. It therefore becomes evident that the rate of absorption is of great prognostic importance. The best position for these subcutaneous injections is in the flanks, in the region of the floating ribs, in the median axillary line, although it may be administered in the buttocks or inner aspect of the thighs. The neck is to be avoided, as there is danger of producing œdema of the larynx. Ordinarily, a hypodermoclysis may be repeated every two hours, and in severe cases it may be well to inject one quart in each flank, repeating the injection so soon as it has been absorbed. In supplying the indication for heat, it is necessary that the solution should have a temperature of about 104° F., and care should be taken that it is thoroughly sterilized immediately before it is introduced beneath the skin. In each of our cases a Davidson syringe was employed, but I would strongly urge the adoption of the ordinary fountain syringe, as by this means the liquid may be slowly introduced, and hydrostatic pressure controlled to a nicety by raising or lowering the reservoir. It requires from twenty to thirty minutes to introduce one quart of liquid, and usually it is unnecessary to attempt to disperse the fluid by manipulation, though it may be advisable in grave cases where rapid absorption becomes necessary. As one would naturally suppose, this subcutaneous liquid forms a large oval swelling, the size depending upon the amount of liquid introduced.

A good working rule regarding the quantity of the injection is the following: For an adult, two pints; for adolescents, one pint; for an infant, half a pint.

We found that the best place for the hypodermoclysis was in the mid-axillary line, in the region of the floating ribs. In an adult a quart of the solution may be introduced in this locality, and when the case is urgent a second quart may be introduced at a corresponding point on the opposite side. When it is desirable to change the locality, the inner surface of the thighs or the chest may be selected. Observation has shown that there is danger in the injection of liquid beneath the skin of the neck. Fatal œdema of the larynx has been reported in two cases where the injection was made in this region.

An enteroclysis consists of a one to two per cent. solution of tannic acid, having a temperature of 45° C. or 113° F. For an adult, two quarts may be given; for an adolescent, one quart. This solution should be introduced very slowly, and in each of our cases the Davidson syringe was employed, but I should advise the use of a medium-sized soft-rubber rectal tube. having one outlet one-half inch from the extremity, and a second on the opposite side, two inches from the extremity, and the terminal portion closed so as to facilitate its introduction. In an adult this tube should be well oiled, and gently and slowly introduced by a slight rotary and inward pressure for the distance of ten inches. To this tube should be attached an ordinary fountain syringe, the same as the one suggested for hypodermoclysis. The advantage of this method is that the hydrostatic pressure may be modified immediately to suit the particular case in question, and in this manner the rate of discharge of the liquid may be regulated. It is necessary that the solution should be *slowly* introduced, occupying not less than *ten minutes*. The tube should then be slowly withdrawn, and gentle pressure applied to the anus in an inward direction toward the anterior perineum. The patient should be encouraged to retain the liquid as long as possible. Not infrequently, if the first desire to void the injection is overcome, it is retained without further difficulty.

It has been hitherto generally believed that the ileo-cæcal valves prevented the entrance of liquids from the colon into the ileum. In many of our cases, after giving an enteroclysis of tannic acid, we were convinced that the liquid entered the small intestines, and this opinion was strengthened when several of our patients vomited this same solution.

In order to investigate this matter more carefully, the following experiments were made :

A fountain syringe containing three pints of water was suspended at an elevation of five feet, and a rectal tube introduced for a distance of six to ten inches.

CASE 1. Male child, aged 2 years ; dead of cholera ; the liquid passed readily, filling the intestines and stomach.

CASE 2. Male child, aged 2 years ; dead of marasmus ; liquid passed freely, filling the intestine and stomach.

CASE 3. Child, aged six years ; dead of measles ; the liquid passed readily through the entire intestinal tract, and flowed from the mouth and nose.

CASE 4. Child, aged 3 years ; dead of measles ; the liquid passed readily through the ileo-cæcal orifice, filling the small intestine.

CASE 5. Child, aged 3 years ; dead of measles ; the liquid refused to pass. A *post-mortem* examination showed that the colon was over-distended, and that there was a twist in the ileum against which the distended colon pressed, rendering it impossible for any liquid to pass into the ileum.

CASE 6. Female child, aged 18 months ; dead of measles ; the liquid failed to pass both before and after opening the abdominal cavity. In this case the ileo-cæcal valve was small, and the lips of the valve were in close apposition, rendering it impossible for any liquid to pass from the colon into the small intestine.

CASE 7. Child, aged 2 years ; the liquid refused to pass ; upon examination the ileo-cæcal valve was found to be competent.

These observations show that in two cases the valve was competent to prevent irrigation of the small intestine, and in one case, owing to the peculiar twist in the ileum and the pressure of the over-distended colon, liquids failed to enter the ileum. This case is particularly instructive, and shows that in a certain number of cases success may be looked for, even though the first attempt prove unsuccessful. In four cases there was no difficulty whatever in the passage of liquids from the anus to the stomach, or even out through the mouth and nose.

As *coldness* of the body and *lowering* of the *central temperature* is an almost constant condition in Asiatic cholera, it becomes necessary to supply heat. This is accomplished by heating the liquids used in hypodermoclysis and enteroclysis, and also by the hot plunge bath, which is always given to the patients in the state of collapse. I should further advise that the entire skin surface be covered by soft woollen undergarments, and from time to time hot air should be conducted beneath the bedclothing. Advantage may also be taken of hot air bags and hot bricks. The patient should be covered by two woollen blankets and a counterpane. A most excellent practical suggestion to add to the heat of the body has been made by Dr. Francis X. Dercum, namely, that the patient be placed upon a water-bed, through which hot water should constantly circulate.

Stimulation. The best method of administering stimulants is by deep hypodermic injections of whiskey, repeated every hour or less frequently, according to indications. For an adult, twenty minims may be employed; for an adolescent, ten minims; and for an infant, five minims. During the stage of collapse, if there is any tendency to vomiting, it is wisest to avoid the administration of any substance by the mouth.

Lavage. As the stomach frequently contains large quantities of choleraic liquid, it is often advisable that a soft rubber stomach tube be introduced, and that lavage be thoroughly performed, using the hot tannic acid solution as in washing out the intestines.

Hydrychloric Acid. As the growth of the spirillum of cholera is inhibited by an acid medium, and as hydrochloric acid is the normal acid of the gastric juice, it is desirable that it be administered diluted in a glass of water at intervals of two hours. An adult may receive fifteen minims; an adolescent, ten minims; and an infant, five minims, taken slowly in sips.

Nourishment—Liquids. The only nourishment that should be administered is peptonized milk, or milk that has been sterilized, in small quantities, about two ounces every two hours. If this is not well received, it may be surcharged with carbonic acid gas, or koumiss may be substituted. Iced champagne, in small quantities, may also be given, or iced wine-whey made in the proportion of one part of sherry wine to four parts of milk. The only liquid that should be permitted is carbonated distilled water. When vomiting is persistent, all attempts to administer remedies or food by the mouth should be avoided.

In conclusion, I cannot refrain from acknowledging my hearty thanks to Drs. Byron and Abbott, of the Loomis Laboratory, New York, to whom I am not only indebted for the opportunity of making this clinical study, but also for the many courtesies which I have received at their hands; and, further, to Dr. Byron is due the credit of having initiated the treatment of these cases in the manner herein pointed out.

To Dr. Jenkins, the health officer of the port of New York, my thanks are due for his many kindly courtesies, and for the aid which at all times he gladly extended to me.—*University Medical Magazine.*

Clinical Notes.

A CASE OF COMPOUND FRACTURE OF THE SKULL FOLLOWED BY SUPPURATION.

By Charles B. Langford, M.B.,
Blenheim, Ont.

Clifford C., aged 6 years, on the afternoon of July 6, 1891, received a violent kick on the head from a horse. He was seen shortly after the injury, and a compound depressed fracture of the skull, with escaping brain substance, was found. It was not deemed advisable to operate, but await developments.

I saw the patient next morning in consultation. I found him unconscious; respirations 24, rather shallow; pulse 110, weak and compressible; wound in scalp about one and a half inches above external angular process of the left frontal bone, exposing the depressed bone. Brain substance was still escaping, and its irritation caused convulsive movements of the right foot and leg. The raising of the depressed fragment of bone by operation was deemed advisable. In the preparation of scalp, wound, etc., the technique of modern antiseptic surgery was carried out in detail. The patient being anæsthetized, I made an incision upwards and backwards from the wound in scalp for about two and one-half inches, and cleared out the blood clots, exposing the depressed fracture. The fracture passed through the coronal suture, and the depressed fragment was one and three-quarter inches long, and varied from one-half to three-quarter inches in width, with edges irregular and slightly chipped. After careful cleansing of structures involved, I snipped off the protruding portion of brain substance. By gentle manipulation, the remainder was restored to the cranial cavity. The estimate of brain substance lost would be about four drachms.

After trimming off projecting spiculæ of bone, the depressed fragment of skull was restored to its original position by means of a fine elevator.

After the usual antiseptic precautions incision in scalp was sutured, and a small drainage tube was placed and left in the most dependent part. Antiseptic dressings were applied, and orders given not to have them disturbed. Patient progressed favorably, but on the third day I found the dressings had been so disturbed that free hemorrhage ensued. Further examination revealed that this disturbance was sufficient to make repair by granulation inevitable. The wound being dressed every day or two, healing progressed favorably, the detached fragment of bone became united, consciousness was regained, and the movements of the limbs restored.

On two occasions threatened intracranial inflammation was prevented by the ice coil, purgation, etc. I was taken ill myself on July 1st, and the dressing of the wound was left in care of the mother. On Aug. 6th I found that the dressings had been so neglected that the periosteum over a surface one and one-half by one and one-quarter inches had been destroyed and necrosis of skull begun. The edges of the wound had ceased to granulate, and had become attached to the bone beneath. The case looked as if the sur face denuded of periosteum would become necrotic and exfoliate. To overcome this difficulty, the treatment advised by Dr. Senger in a paper read before the German Surgical Congress, and referred to in the *International Journal of Surgery*, August, 1891, was carried out. The small portion of necrosed bone having been removed with a scoop, the parts were kept constantly moist for three days with warm boracic acid solution (grs. x-℥i), and the dressings changed four times in twenty-four hours. With a fine chisel, the upper layer of the external table of skull was then taken off in thin lamellæ sufficiently deep that drops of blood appeared on surface of bone.

Anæsthesia was unnecessary, as there was very little pain. The surface was covered with lint, which was kept constantly moist with warm boracic solution (grs. v-℥i). On the fourth day I found at denuded points granulations shooting from the bone beneath, and in ten days, in place of bare necrotic bone, the whole surface was covered with healthy granulations. Healing progressed favorably; and to-day, a year and one-half since the accident, a healthy, firm cicatrix is found, and very little evidence is shown of the severe injury received, or of the operation having been performed. The boy's faculties and movements have regained normal condition, except that in walking or running he flexes the right forearm on the arm with hand pronated and fingers flexed. When extending the fingers of the same hand, he does so slowly. The success of the treatment was perfect, and fully verified Dr. Senger's experience.

HYSTERO-EPILEPSY IN A CHILD OF THREE.

By W. B. Thistle, M.D., L.R.C.P. Lond.

That hysteria in its various phases is seen in childhood is a well-established fact. Cases are on record of hysterical paralysis, aphonia, aphasia, anæsthesia, and catalepsy occurring in children two, three, and four years of age.

However, the appearance of the severer phenomena of the condition in the very young is sufficiently uncommon to, perhaps, render a report of the following case of interest.

G.C., æt. 3 years, a bright, healthy-looking little boy, had been admitted to the Victoria Hospital, suffering from purulent discharge from the right ear. In other respects he was quite well.

Feb. 14th. He seemed to be in excellent health, playing and singing; took his breakfast, but while at the table the nurse noticed that he acted strangely, grasping at imaginary objects, and shortly began to cry. In about half an hour he became somewhat unconscious, very restless, and was seen to strike at the other children who came near. He attempted to bite his hands. Was put to bed. Temperature normal.

1 p.m. Face flushed a bright red. Pupils widely dilated, but contract to light. At times there is convergent squint. Eyes are wide open, bright, and looking about constantly. The head is rolled from side to side. There is incessant movement of arms and legs, somewhat spasmodic in character. Evidently there are hallucinations of sight and hearing, as the expression of the face changes quickly, now indicating surprise, again pleasure, and in a moment starting as if in terror. The symptoms of busy delirium are constant, there being no periods of subsidence into somnolence, as in meningitis. At times he shows a sense of what is going on about him; for example, saying indistinctly, "Hold my hand." He showed no sign of recognition when his mother came into the ward. Breathing is short and rapid. Temperature 99.2°. Discharge from ear as usual. No tenderness about that region.

4 p.m. Temperature 102.2°. Respirations 68. Condition as at last visit. Ordered chloral hydrate, grs. vi. This was given, and repeated in half an hour with potassium bromide, grs x. There was very slight adhesion of the prepuce, which was broken down.

10 p.m. Temperature 102.1°. Respirations 70. No change in condition; constant movement and busy delirium have continued without interruption since last visit.

While at his bedside I told the nurse to bring in the bath, fill it with cold water, and plunge him into it if the movements continued, when he at once became quite still.

12 p.m. Temperature 99.4°. Respirations 30. No movements since visit at 10 p.m.

11 a.m. Temperature normal. Has had breakfast, and is playing in bed.

On one occasion since there were indications of another attack, but the suggestion of a cold plunge was sufficient to prevent further manifestations.

NOTES OF A CASE OF AORTIC ANEURISM.

(UNDER DR. McPHEDRAN.)

Reported by J. W. E. Brown, M.B.,
House Surgeon, Toronto General Hospital.

Thomas A., æt. 44; occupation, boilermaker; admitted to Toronto General Hospital, Sept. 28; died, Oct. 7th, 1892.

Patient's mother died of apoplexy. His wife died seven years ago. Has drank moderately heavy, and always worked hard. About nine months ago, while riveting a boiler, he was suddenly seized with a sharp pain in the chest, accompanied by dyspnœa, which caused him to quit work at once. Was treated for rheumatism. In a few weeks he began to notice a small lump on the left side of his chest, which gradually increased in size. His voice gradually became husky, and phonation difficult. He also suffered from dysphagia. At the time of his admission to the hospital, he complained of much pain if he moved. He was considerably emaciated and quite weak. Skin was cyanosed, particularly on the hands and face. Tongue was thickly coated, teeth badly decayed, and his lips covered with dry bloody scales. Appetite was poor, and bowels irregular. His pulse was frequent (130), weak, and fairly regular at first. Arteries were markedly sclerosed. The area of the heart dullness was increased, the apex beat being felt indistinctly in the sixth intercostal space, four inches to the left of the mid-sternal line. The second sound was markedly accentuated; but there was no murmur or bruit. The respirations were fifty a minute, unilateral, the right side alone expanding, and that much more than normal. No fremitus could be obtained over left lung on palpation; but dullness over its whole area on percussion. On auscultation, no breathing sounds could be heard on left side, but were much exaggerated on the right. Mucous râles could be heard after he coughed. His cough was very marked; however, there was very little expectoration. His voice gradually became so indistinct that finally it was very difficult to make out what he said. He moaned with each respiration. His temperature was $103\frac{3}{5}°$ when he came in, continuing nearly as high in the evenings, with slight morning remissions, until the last two days, when it fell to about normal.

The tumor extended from the second to the fourth rib, and from the left side of the sternum to an inch beyond the mammary line, was firm, regular in outline, pulsating, and expansile.

The patient, toward the last, became quite delirious, had muscular twitchings, pulse became very weak and irregular, and had occasional spells of vomiting.

Patient died on ninth day after admission.

The medicinal treatment consisted of nitro-glycerine and opium.

At the *post mortem*, in stripping off the pleura from the left side the aneurism was cut into. A part of the second rib and the sternum had been absorbed. A large quantity of clotted blood was found in the left pleural cavity, showing that the aneurism had burst into it. The right lung showed hypostatic congestion. The left lung was completely collapsed and non-crepitant The aneurismal sac was large, with walls an inch thick. It was situated on left side of the ascending aorta. There was a large perforation in it. Within it were both *ante-* and *post-mortem* clots. The inner surface of the aorta was markedly calcareous.

Progress of Medicine.

MEDICINE

IN CHARGE OF

W. P. CAVEN, M.B. Tor.,

Lecturer in Clinical Medicine in the University of Toronto; Physician to Home for Incurables.

THE TREATMENT OF OXYURIS VERMICULARIS.

Dr. Nicholson draws attention to the fact that children suffering from the oxyuris vermicularis may, after irritation and scratching of the anus, convey the ova to the mouth and thus reinfect themselves.

When a child suffers from this parasite he recommends that it should be bathed twice daily, the underclothing changed frequently, a draw sheet put below the patient at night, the nails kept short, the fingers dipped frequently in an infusion of quassia, and the anus smeared night and morning with an ointment composed of nitrate of mercury, with a small quantity of extract of quassia added. The condition of the bowels should be attended to. Mercury, with chalk and rhubarb and soda powder, should be prescribed to secure daily evacuation. Now santonin must be given every other night for a week, and if taken longer santoninism must be guarded against, viz., tenesmus, spasms, yellow vision, hemorrhages, and red-yellowish urine. Attention should be paid to the bile secretion, the great antiseptic of the intestinal tract. The endeavor should be to increase peristalsis and diminish the secretion of mucus by giving as a tonic citrate of iron and strychnine, in moderate doses, after food. Dr. Nicholson has lately been using, with great benefit, extract of quassia made into a suppository with cacao butter (one to three grains); these suppositories are easily introduced at night, and children do not object to them.

Injections are disliked by children, and it is difficult to get the mother or nurses to take the necessary trouble. An injection of menthol (one grain) dissolved in one ounce of olive oil is often useful. The child should have abundance of outdoor exercise and a free diet, avoiding uncooked vegetables, fruit, sweets, etc., and anything likely to produce catarrh or increase the mucus. The patient should be isolated during the period the oxyurides are being expelled, kept from school, should sleep alone, and not be allowed to mingle with other children. This treatment should be maintained until all signs of oxyurides are obliterated.—*Lancet.*

Effects of a Very Large Dose of Quinine.

Dr. Grosskopff (*Therap. Monat.*, October, 1892) reports the effects of 75 grains of quinine in a single dose. The patient had been ordered six 15-grain powders, and finding that one powder was of much service to him he took the remaining five in a single dose. He became unconscious in about an hour. Two hours after the large dose had been taken, Dr. Grosskopff found him still unconscious, face pale, the whole body icy cold, the pulse small and frequent, the breathing superficial and accelerated. Two "ether camphor" injections were administered, and frictions to the chest employed. After about an hour the patient recovered consciousness and opened his eyes. When asked how he felt, he said, "Well, but I can see nothing." He then fell asleep, and when he awoke a few hours afterwards he said he felt well, but that the room was dark, although there was a bright light burning in it.

In a few minutes after this, however, the room appeared to be lighter, and he could see things on the wall. Next day he was quite well. During the whole time he never complained of noises in the ears or difficulty in breathing. It is worthy of remark that the malarial attacks, for which he was ordered the quinine, did not recur after the dose of 75 grains.—*Medical Chronicle.*

The Treatment of Scrofula with Creasote.

Professor Sommerbrodt (*Therap. Monat.*, October, 1892), in his first work on the treatment of lung tuberculosis with creasote, notices the identity of scrofula and tuberculosis, and advises the same treatment in young persons with large cervical glands without weakness of the lungs or larynx, and states that he has noticed the disappearance of these glands under creasote treatment. Since that time Sommerbrodt made use of every opportunity to give creasote to scrofulous children. The results have been so good that, in the *Berl. klin. Wochen.*, 1892, No. 26, he directs the attention of medical men to creasote, and tells them to try it in the treatment of scrofula. In children under six years of age he recommends pure creasote to be given in milk or wine, without any further addition, three times daily, beginning with one drop and increasing the dose every two days, until seven to ten minims has been given daily. In children over seven years of age it is easy to arrive at fifteen minims daily, either giving it in the form of drops or in capsules of 1½ minims creasote, with cod liver oil (not with tolu balsam). An increase to more than fifteen minims daily will very seldom be necessary. It should be noticed that the medicine ought not to be taken on an empty stomach, but only after each of the three chief meals.—*Medical Chronicle.*

On the Spread of Diphtheria.

Diphtheria claims from 5,000 to 6,000 deaths in England and Wales, *i.e.*, twice as many now as twenty years ago. Faulty drainage no longer holds its ground as a cause, for *pari passu* with improved sanitation the mortality from diphtheria has increased, more especially in large towns where, owing to these improvements, general mortality had agreeably diminished. It is granted that general sanitary defects may prepare a condition of the fauces favorable to a diphtheritic attack, but that the true source of diphtheritic contagion may be assigned to the lower animals principally, as shown by Mr. W. H. Power and Dr. Klein in a kindred infectious disease amongst milch cows. Once thus started, the "school influence" means of diffusion comes into action, school life in all its phases especially favoring its dissemination—in a mild form, it may be, at first, but subsequently becoming intensified. Diphtheria is intensely infective from person to person, the ages from three years to twelve years being especially liable in this way; and mild cases often in their sequelæ become alarmingly dangerous, and quite often instigate in others malignant types of the malady. Such are the prominent and at the same time not easily preventable causes of the disease.—*Editor, in British Medical Journal.*

Forms of Tuberculosis Found Clinically in Children.

Dr. E. C. Aviragnet concludes his review of the subject thus:

(1) Tuberculosis frequently attacks children and then usually becomes general; local tuberculoses are rather exceptional in them.

(2) General tuberculosis in them is acute, subacute, or chronic.

The acute kind takes three different forms: (*a*) A very acute tuberculous infection; (*b*) a continuous tubercular fever, typho-tuberculosis; (*c*) a general miliary tuberculosis. The subacute is the so-called galloping consumption. The chronic is found chiefly in the very young.

(3) The localized tuberculoses are acute and chronic.

The acute takes the form of pneumonia and broncho-pneumonia, manifestations which do not appear to be due to the bacillus of tuberculosis alone, but to the bacillus associated with other microbes. It is then a mixed lesion. The chronic kind takes the form of pulmonary, intestinal, peritoneal, and mingeal tuberculosis.—*Bulletin Général Thérapeutique.*

J.A.A.

The Use of Sulphonal in Arresting the Cramps of Fractured Limbs and Other Reflex Spasms.

Dr. Edward Andrews, of Chicago, contributes to the *Journal of the American Medical Association* for August 27th, 1892, a brief article upon the use of sulphonal for the purpose of overcoming reflex spasm. After recognizing the fact that its action is very slow, and that when the cramps are nocturnal it is necessary to give a large dose two or three hours before bedtime, or else to give small doses several times a day, he strongly urges the employment of this remedy in such spasmodic affections.

He reports the case of a vigorous young man who fell forty-two feet, striking obliquely on a slope of timber, causing a severe contusion of the right sciatic nerve, without any fracture. The thigh and leg of the injured side were affected by a constant and painful jerking motion resembling chorea. Two doses of sulphonal of fifteen grains each completely arrested the distressing movements.

In the discussion which followed the reading of this paper a number of physicians recorded their experiences, which, as a rule, were favorable.—*Medical Chronicle.*

Vomiting of Pregnancy.

Dr. Weil recommends that ten drops of a twenty per cent. solution of menthol in olive oil, dropped on powdered sugar and sugar sprinkled over it, be taken whenever nausea appears. By this means relief can be obtained, he says, in the most severe cases of apparently uncontrollable vomiting.—*New York Medical Record.*

Dr. Lowson, of Hull, has, we learn, operated in a case of tuberculous disease of the lung by removing the right apex, where the disease alone existed, the left lung being apparently sound. The operation was performed eight days ago, and the patient is doing well.—*British Medical Journal.*

THERAPEUTICS

IN CHARGE OF

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AND

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A Physiological Styptic.

According to the London correspondent of *The Therapeutic Gazette*, Dr. A. E. Wright's new styptic is the outcome of considerations on the factors which determine coagulation. It occurred to him that the best way of controlling hemorrhage would be to imitate as closely as possible one of nature's own methods and produce natural coagulation in the blood. Now the addition of fibrin ferment to the blood is in itself sufficient to hasten its coagulation. We know, besides, that the coagulability of blood is dependent on the proportion of lime salts contained in it, blood absolutely deprived of these being uncoagulable. Combining these two ideas, Dr. Wright has prepared his styptic, which is a solution of fibrin ferment, together with one per cent. of calcium chloride. The efficiency of this solution, when applied to severe wounds in animals, is, as the writer has himself seen, very remarkable ; a small quantity applied with a swab of cotton-wool being sufficient to almost immediately arrest the hemorrhage, which is ordinarily very profuse. The solution is prepared as follows : The blood of cattle or sheep is received direct into about three times its volume of water, is set aside to gelatinize for a few moments, and then thoroughly whipped with twigs. The fibrin thus obtained is gently washed, so as to free it from blood pigment, and then extracted for about twenty-four hours with five to ten volumes of water. To the filtered extract is then added one per cent. of calcium chloride. The great advantage, besides its efficiency, is that the process of occlusion by a natural coagulum is one which is calculated to do least harm to surrounding tissues. The action of the styptic is perfectly selective, being exerted on nothing but the blood with which it is brought in contact. No other styptic so thoroughly fulfils this condition.—*Medical Age.*

Hydrogen Dioxide.

Hydrogen dioxide (peroxide of hydrogen) has been used much more largely during the year past. The more that is learned, both as to its applicability and as to its mode of preparation and keeping qualities, the more reliable will be the therapeutical results, and the less adverse criticism from unnecessary failures will be heard.

Its range of usefulness has also been somewhat extended since last year. In illustration, Dr. Altehoefer recommends it as a disinfectant of polluted water. His researches tell him that one part per thousand of water containing sewage or infectious microbes is fully sufficient to destroy the various organisms if left to act for twenty-four hours. Used in drinking water it does not make it in the least unpotable, and the proportion of the agent needed is so small that the cost is inappreciable.

It has had quite an increasing use as a cleansing agent for foul wounds, abscesses, and the like.

It is found to be a valuable diagnostic agent in determining the presence of pus ; for Staver found that when injected into a part in which suppuration was suspected, it would indicate its presence by causing an almost immediate swelling up of the part. If such a discovered spot was at once cut into, pain was avoided. He treated a number of suppurating buboes in this way with great success.

Dr. F. H. Wiggin, of New York city, desires the profession to try it in the treatment of typhoid fever, as he has had one very successful case, in which he "prescribed one ounce of fifteen volumes of peroxide of hydrogen to eight ounces of water, to be taken every three hours, by the mouth." He is fully alive to the fact that his one case cannot prove anything, and therefore urges others with more frequent opportunities to try it and report on further use.

During the year it has been the chief work of the manufacturing chemists in this line to either improve the process or to discover some agent to add to the finished product that will render its keeping qualities far better than they are at the present time. The presence of a free acid appears to be absolutely necessary in all solutions of this article, since without this careful comparative tests have definitely proven that decomposition is rapid; but much free acid protects no better than a little, while it renders the solution and its dilutions hurtfully irritant to diseased and sensitive surfaces. Boroglyceride in small proportion acts fairly well as a preservative, but still decomposition occurs, and chiefly upon agitation. —*Squibbs' Ephemeris of Materia Medica, etc.*

GUAIACOL.

Guaiacol—the beechwood tar product containing a maximum of 90 per cent. creasote—has been in remarkable demand during the last year. At one time it seemed as if the manufacturers could not supply the unusual calls upon them, and an inferior article was offered for sale, with customary failures in expected results.

Its use, together with that of its salts, has been largely, if not wholly, confined to the treatment of pulmonary tuberculosis. Of all the agents used for this affection, there is probably none which has proved so uniformly beneficial. It has been constantly increasing in favor from its very introduction, many years ago, and it is now, perhaps, more generally used, in every country in the world, than any other agent for this infection. The benzoate, salicylate, iodide, and carbonate—all have found their use in individual practice, but none of these has been given more attention during the past year than the carbonate.

The irritation produced by guaiacol, as well as by creasote, is, in some cases, sufficient to preclude the use of either, and therefore Drs. Richard Seifert and Fritz Holscher proposed to overcome this difficulty by substituting the carbonate—obtained by passing chlorine and CO gases into a mixture of guaiacol and caustic soda. The product is a tasteless and odorless crystalline powder, insoluble in water.

In a healthy stomach it apparently is not split up—remaining unacted upon until it reaches the intestine—and therefore it does not disturb the digestion. In an hour after administration it may be detected in the urine.

According to the above observers, the initial dose to be used is from 20 to 60 milligrammes (about $\frac{1}{3}$ to 1 grain), and increased up to a maximum of 6 grammes (about 90 grains). No disturbance of the digestion, circulation, or nervous system was noted from even the maximum dose. Out of four cases upon whom the carbonate was tried, two had taken creasote and one guaiacol itself with trifling benefit, but were manifestly improved by the carbonate. Again, other cases taking the carbonate regularly and improving, lost in weight and in general condition when put upon creasote. —*Squibbs' Ephemeris of Materia Medica, etc.*

BROMOFORM.

Bromoform is now well prepared by the action of sodium hypobromite on acetone (made by the dry distillation of acetate of lime). Caution must again be emphasized in the selection of this article, as it should be a clear, *colorless* liquid, with an agreeable odor and sweetish taste. If the liquid has color it should be rejected, as it denotes decomposition, and therefore is treacherous.

It still has an increasing use in the treatment of pertussis, with comparatively few failures. It apparently simply aborts the paroxysms, and probably reduces their number somewhat, but has little other effect on the regular course and duration of the affection. Increasing doses must not be pushed too far, especially in children, as toxic symptoms have manifested themselves in more than one case. The late Prof. P. W. Bedford, of New York city, recommended the use of glycerin as a perfect solvent, which water is not, and suggested the following prescription, which has been a serviceable one:

Bromoform...............	16	minims.
Alcohol....................	2	fluid drachms
Glycerin...................	12	“
Tinct. cardamon. comp.......	2	“

Inhalations of bromoform have been used with some success both here and in England in the treatment of diphtheria—particularly in recent epidemics.

The topical application recommended some two years ago by Dr. S. Solis-Cohen, of Philadelphia, continues to meet with some favor in cases of ozaena and tuberculous and other ulcers of the larynx. It acts as a deodorizer, disinfectant, and analgesic.—*Squibbs' Ephemeris of Materia Medica, etc.*

THE CONTINUOUS CURRENT IN SCIATICA.

M. Rauviex says that all cases of neuralgic sciatica should not be treated by currents running in the same direction. A distinction should be made between acute sciatica having pain as a symptom and an old sciatica having stiffness and interference to movement. In the acute, descending continuous currents, currents which relieve pain, must be used, and later on the ascending currents might be employed. In the chronic, ascending currents should be used. But if the acute stage has not altogether passed, there will be a return of pain. It is important that the symptomatic forms be differentiated from the essential forms; because in symptomatic sciatica of bone disease the indiscriminate use of the currents might cause serious inconvenience.—*Bulletin Général de Thérapeutique.*

J.A.A.

CASTORIA.

Castoria, which has been so profusely advertised on almost every available square inch of house and fence surface unprotected by the warning "Post no Bills under Penalty of the Law," has been counterfeited (?) by some obtrusive intermeddler with lucrative commercial interests by producing like results with a mixture of Fl. Ext. Alexandria Senna, Fl. Ext. Levant Wormseed, Fl. Ext. Peppermint, Fl. Ext. Anise Seed, Wintergreen Oil, Rochelle Salt, Sodium Bicarbonate, White Sugar, Molasses, Alcohol, and Water—the alcohol being very nearly one-third, the senna about one-sixth, the molasses about one-twelfth each by measure, and the "sugar two ounces by weight." The originator of Castoria may claim that this concoction is not at all the true article, but nevertheless "children cry for it" as loudly as for his, and what more could one ask?—*Squibbs' Ephemeris of Materia Medica, etc.*

GLYCERIN SUPPOSITORIES.

Glycerin suppositories have met with increasing favor in the treatment of some forms of rectal inertia and weak peristaltic action, particularly of the lower intestinal tract.

Many formulas are in use, but the one which gives the best satisfaction, according to Prof. J. P. Remington, of Philadelphia (President of the American Pharmaceutical Association), is as follows:

Sodium carbonate	2.6 grammes	(40 grains)
Stearic acid	5.2 "	(80 ")
Glycerin	70.0 "	(1080 ")

—*Squibbs' Ephemeris of Materia Medica, etc.*

OBSTETRICS

IN CHARGE OF
ADAM H. WRIGHT, B.A., M.D. Tor.,
Professor of Obstetrics in the University of Toronto; Obstetrician to the Toronto General Hospital.

Effect of Chloroform on Labor.

The exact effect of chloroform inhalation on the contractions of the uterus during parturition has been recently experimentally investigated by Dr. Donhoff, in the Kiel *Obstetric Clinic*, by means of an india-rubber bag passed into the uterus, communicating with a recording manometer, a kymograph, and a mercurial manometer by means of a tube which, together with the india-rubber bag, was partially filled with water. He finds that a slight degree of chloroform narcosis has a paralyzing effect on the uterine contractions, the pressure falling to nearly half what it was previously. If the chloroform is stopped the pressure during a pain increases, but at first to only about two-thirds of the original pressure. In two of the cases observed, the initial pressure was not regained until two hours after the cessation of the administration of chloroform. In cases where the abdominal muscles assisted the uterine contractions to only a moderate extent this auxiliary was entirely arrested by chloroform, even when the patient was partially under its influence; but when the muscles exerted a great deal of force their action did not entirely cease unless the patient was fully narcotized. The intervals between the pains were prolonged by chloroform, so that when the patient was partially anæsthetized the number of pains in a given time was diminished by 20 or 25 per cent.—*London Lancet.*

[Many careful observers, including Lusk, of New York, who has probably furnished the most valuable contribution on the subject, are convinced that the administration of chloroform has a serious effect in diminishing uterine contractions in a certain proportion of cases. I believe that it somewhat frequently causes decided uterine inertia, which necessitates the use of the forceps, and causes post-partum hemorrhage. I think these dangers are not sufficiently appreciated.—A.H.W.]

Sudden Deaths in Labor.

Sometimes rapid and even sudden death overtakes women in labor. The chief causes are:

(1) Solid emboli into the right heart or into the pulmonary artery.

(2) The entrance of air into the veins.

(3) Syncope and shock.

(4) A variety of lesions: (*a*) Heart disease and rupture of aneurismal sacs; (*b*) cerebral and meningeal hemorrhage; (*c*) sudden severe hæmoptysis and hæmatemesis; (*d*) pleuritic effusion; (*e*) rupture of a renal abscess.—*Lyon Médical.*

THE SNIVELY-MURPHY BREAST BINDER.

DIRECTIONS FOR CUTTING AND APPLYING.

By Miss M. A. Snively,
Superintendent Training School for Nurses, Toronto General Hospital.

Miss Snively's directions for cutting and applying the breast binder, recommended in the paper on "The Prevention of Mastitis" in the last issue of The Practitioner, were inadvertently omitted. I consider them so important that I give them in this number, and reproduce the diagram originally intended to accompany them. I may say that in my practice I tolly ignore rule 4, which, as will be seen, Miss Snively does not consider important. The rules 1, 2, and 3 are the important ones. Given a piece of cotton and a pair of scissors, you can easily make the binder in a few minutes. Sometimes the bust measures more than thirty-six inches. In such cases I take a piece of cotton and cut it lengthwise, making it thirty-eight to forty inches long, and sixteen inches wide. I then cut as directed in rules 1, 2, and 3.—A.H.W.

Material. Sixteen inches of strong factory or bleached cotton, one yard wide.

(1) Fold selvage edges together, then fold in the same direction again. Your cloth is now four thicknesses, and must remain so until all cutting is finished.

(2) Your first cut will be on the side opposite the selvage edges. Place scissors two inches from the edge, and cut downward eight inches (this will be just one-half), taking a circular direction outward, after cutting seven inches; this forms the armhole.

The straight edge, thirty-six inches long, is now the bottom, and the opposite side the top.

(3) Now fold the four thicknesses over about four inches. This will bring the selvage edge even with the first seven inches of the opening first made for the arm. Press this firmly with the hand, so as to leave the mark of the fold; then unfold.

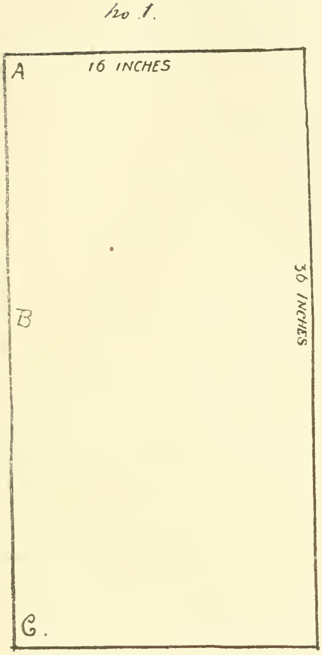
Place scissors three inches from top on selvage side, and cut in a semi-circle direction upward toward the top of the mark of the fold; this forms the neck.

(4) Place scissors one inch from top, at opening made for arm, cut diagonally upward four inches to top of fold or crease, remembering that, while you *begin* by cutting off one inch, you gradually cut less and less as you approach the top of the crease; this forms the shoulder.

N.B.—No. 4 is not important, as the binder can be made to fit without this cut. [I never use this "cut"—A.H.W.]

(5) In applying binder the shoulder can be joined with small safety pins, while the front is joined with ordinary pins. The front is turned in to fit the patient—no sewing being required.

BREAST BINDER.



No. 1.

Fold *A* to *C*, then *B* to *C*.

No. 2.

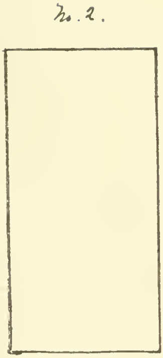
Represents cloth folded ready for cutting.

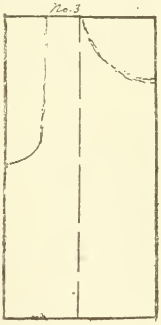
No. 3.

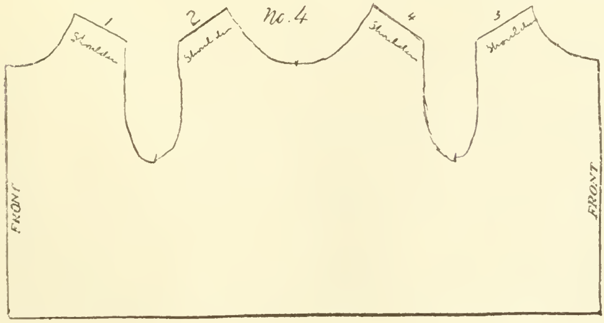
Represents by dotted line the part to be cut out for arm and neck, with centre line representing fold.

No. 4.

Represents binder completed. Pin No. 1 and 2 together, and 3 and 4 together, to form the shoulders.







THE USE OF ELECTRICITY IN MIDWIFERY.

Dr. Ogden C. Ludlow, of New York county, read a paper thus entitled. The term "electricity" was used in this paper as synonymous with the faradaic current, and the more important uses of this form of electricity were considered under three heads, viz., (1) its sedative action, (2) its oxytocic action, and (3) its power to prevent and to control uterine hemorrhage. It was useful where chloral or morphine was contraindicated, on account of idiosyncrasy or debility, or where it was not considered prudent to push the use of these drugs further. It was also available where the stomach was too irritable to retain medicine, and, unlike morphine or chloroform, it did not interfere with the progress of labor, but, on the contrary, excited more powerful and efficient uterine contractions, at the same time that it quieted the general nervous irritability. As it did not favor uterine relaxation, its administration did not complicate subsequent operative procedures under anæsthesia. When this sedative action of the current was desired, its strength was carefully adjusted so as to be distinctly perceptible to the patient, but not painful. It was important that the vibrations of the contact-breaker should be smooth and rapid, and that the current should be continuously applied for ten or fifteen minutes. Its power to excite and to stimulate uterine contractions was one of its most certain actions, and hence it was indicated in every case of tedious labor in which the delay was due to feeble or infrequent contractions; or where, owing to a slight disproportion between the fœtal and maternal parts, unusual muscular exertion was required to expel the child. It produced a "steadying effect" on the uterine contractions when they were severe and almost incessant, making them less frequent and at the same time more efficient. The action of ergot was slow and uncertain in degree; faradization produced its effect instantaneously, and the amount could be accurately gauged. Ergot exerts its influence for a variable length of time, which was entirely beyond control; faradization acted upon the uterus for just so long a period as the operator desired. Ergot produced a tonic cramp of the uterine muscle, which naturally exhausted the mother, and was dangerous to both mother and child; faradization produced a steady, rhythmical contraction, which allowed a proper interval of rest to the uterine muscle and closely imitated nature's method. By virtue of its power to excite uterine contraction, the faradaic current was also of service where there was moderate post-partum hemorrhage. The current was best applied to the patient in all cases with the positive pole over the sacro-lumbar region and the negative on the abdomen, the only precaution being to avoid passing the current directly through the head of the child. The positive pole was a small copper plate covered with wet absorbent cotton and fastened to the body by a belt or bandage. The negative pole was a flat sponge backed with rubber, or, preferably, the operator's hand. The author then cited several cases showing where this agent had succeeded, and where it had failed to give assistance.—*N. Y. Medical Journal.*

GYNECOLOGY

IN CHARGE OF

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COMPLICATIONS AND ACCIDENTS IN PELVIC SURGERY.

[*International Journal of Surgery*, extract in the *North Carolina Medical Journal.*]

(On this subject many valuable points are to be found. They may not be considered of great value to a surgeon who has done many abdominal operations, but will be found of value to the beginner. Among them I noticed the following, that I have never seen mentioned elsewhere. I arrived at the same conclusion some time ago.)

"One of the most frequent causes of hemorrhage in pelvic work is from a rupture of the vascular arch formed by the anastomosis of the ovarian and uterine arteries. In fact, we should at once examine the broad ligaments in all cases where hemorrhage occurs before looking elsewhere. The vessels are torn off in breaking up adhesions, or in making too great tension upon the pedicle of the appendages when applying the ligature, or finally by the ligature cutting into the broad ligament. The stump of the pedicle must be at once brought up into view, and the upper border of the ligament examined. If the hemorrhage is found at this point, the tissues must be caught with forceps and a ligature applied below it. Where it is impossible to bring the broad ligament into view on account of its being bound down by adhesions, we must enlarge the abdominal incision and manage the case in the same manner as that already described in dealing with hemorrhage occurring low down in the pelvis. Hemorrhage may occur from the stump of a pedicle if the ligature has been insecurely applied. This accident, however, will rarely occur if proper care be taken with the technique. After tying the pedicle, the free ends of the ligature should be at once cut off close to the knot, the pedicle should then be cut partly through, but before completing the separation the stump must be caught with hæmostatic forceps. This enables the operator to examine the stump after the pedicle has been cut through, without in any way interfering with the ligature. A hemorrhage occurring from a stump is of course controlled by a second ligature. It is important to remember that a hemorrhage from any portion of the broad ligament may always be controlled by passing a ligature through it at both its uterine and pelvic ends."

THE SWALLOWING OF ARTICLES NOT ARTICLES OF FOOD.

A case is reported by Caret, in the *London Lancet*, of a woman who swallowed a razor, thinking that she would in this way destroy her life. As frequently happens in such cases, the surgeons were unable to satisfy themselves as to the truth of her statement. Nothing could be detected by palpation. Chemistry was therefore resorted to, to aid in making a diagnosis. Twenty drops of dilute hydrochloric acid were given, the stomach was washed out, and the washings were collected and evaporated. The presence of iron was detected by the Prussian blue test. This was found to exist in large quantities. On the sixth day after admission the end of the razor was felt through the abdominal walls. The patient was operated upon, but died five days after.—*North Carolina Medical Journal.*

ENDOMETRITIS.

Dr. W. B. Slater has an article in the *Maritime Medical News* for September on endometritis. He deals with the subject in a way that may not suit many of those who imagine that endometritis is a frequent disease, and who find it in almost every uterus.

"We teach and have been taught that the symptoms of endometritis are well marked, or at least sufficiently distinct to permit us to infer that endometritis exists. Those who have had much gynecological practice know how unsatisfactory all this teaching has been. It may do no harm, perhaps, to hold to the old definition, provided that we have in mind just what is meant." He concludes that endometritis is rare, except as the result of gonorrhœal inflammation extending from the vagina and cervix toward the fallopian tubes, or as a secondary result of pelvic inflammation.

He gives an interesting quotation from Dr. Matthew Duncan in proof of the rarity of the disease. "Dr. Matthew Duncan had the cases at the out-patient department of St. Bartholomew's Hospital, and during one winter carefully examined for endometritis. He was assisted by Dr. Godsen in this research. For the winter's work they did not obtain a single case of endometritis." Duncan further says: "Much is said of endometritis, and I remind you that many authors delight in long descriptions of what is little known or not known. I have no doubt there is endometritis, but if it has any symptoms they are ill-defined or unknown."

Smiley, of Dublin, believes that the disease can only be recognized by the use of the microscope.

SURGERY

IN CHARGE OF

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POST-MARITAL AMBLYOPIA (BURNS' AMAUROSIS).

A young lawyer, apparently in good health, and only a few weeks married, was recently brought to me so nearly blind that he could but just see letters of 200 at six feet. On use of the ophthalmoscope, nothing was discovered. He had no other nervous symptoms, excepting a little headache. He was a man of temperate habits and sound health. The failure of sight had developed rapidly in the course of about ten days. I insisted on abstention from sexual intercourse, and gave tonics with mercury. In a few months he was quite well.

In the lecture* from which I abstract the above case, I have narrated another. A gentleman in strong health, and the father of a large family, told me that in early youth he had been brought by his father to a London oculist because he was almost blind. He assured me that the only cause of his condition was that he had been allowed, as being but a boy, to sleep in the same room with a servant girl, who used to persuade him to have intercourse with her. On his being taken away from the company of this girl, his sight returned, and it never afterwards failed in the least.

A third example of this form of amblyopia, and also of complete and permanent recovery both of sight and health, has quite recently presented itself.

A married man of 32, in robust health, gave me the following history of what had happened to him in early life. At the age of 18 he fell suddenly into dissolute habits, and indulged to great excess in sexual intercourse. He smoked also. The failure of his sight developed rapidly from a "dull haze before me" to complete blindness. He had never had syphilis. After about three weeks' blindness the sight returned, and it has ever since been excellent.

These three cases, so remarkably alike in their features, might lead us to believe that post-marital amblyopia is, like that due to smoking, usually recovered from, and that no relapse occurs although sexual indulgence is resumed. Recovery and freedom from relapse are very definite features in the best-marked examples of tobacco amblyopia. The failure of function which I am now describing has, indeed, remarkable features of similarity with that due to tobacco. It differs from it chiefly in being much more rapid in its development, and in passing to a much higher degree of amblyopia. Tobacco cases usually require months to develop, and rarely proceed to any condition approaching blindness. They recover also much more slowly than do these post-marital cases. As regards recovery, it may be remarked that there are in both series a few cases in which the disease advances to complete and permanent blindness. It may be conjectured that this may happen in cases in which the cause is never suspected and never removed. The cases under notice are not, as a rule, attended by any failure of sexual power, nor are the tobacco cases attended by any distaste for smoking, or consciousness on the part of the patient that it is injuring him.

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* Mr. Burns' case is recorded in a lecture delivered by me in 1876, at the Moorfields Hospital, and published in vol. ix. of the Reports, page 10. I am glad now, after an interval of sixteen years, to be able to complete it.

The cases which I have narrated suffice, I think, to show that young men who have recently assumed habits of frequent sexual indulgence (whether in marriage or otherwise does not matter) are liable to have their sight fail rapidly, without other symptoms. The "blindness" resulting from this cause is usually only transitory, and the recovery is complete and without liability to relapse.

The habit of masturbation and great excess in sexual indulgence under any circumstances may each in turn, I feel sure, induce failure of sight, and derange the nutrition of the eyeball. The post-marital form of amaurosis is, however, quite distinct, and never, I believe, occurs excepting to those who have been newly placed under conditions tempting to excessive indulgence. Under the other circumstances the failure of sight is very gradual and usually permanent, and is attended by symptoms of general neurasthenia. In the Burns type it is sudden, and stands alone.—*Hutchinson's Archives.*

Operative Treatment of Tuberculous Peritonitis.

Dr. Mader, Vienna, in a criticism of Dr. Kœnig's paper upon this subject, read before the tenth International Medical Congress, writes as follows: I endeavor especially to secure intimate contact of the peritoneal layers for a long time, and in the following manner:

(1) Evacuation as complete as possible of the fluid with the trocar and canula. This was facilitated by raising the pelvis, elevating the upper part of the body, by pressure, massage. Adhesion of the peritoneal layers can occur only when they are in close apposition.

(2) By application of compress and bandage. After evacuation of the fluid, a thick layer of ordinary cotton was spread over the abdomen and held in position by numerous turns of a muslin bandage, applied as firmly as the patient could bear it. To prevent slipping upward of the dressing

a few turns of the bandage were taken around the thigh. The bandage was left in place until it became loose, and if necessary was renewed. It was always allowed to remain for several days.

(3) By restricting, as much as possible, the amount of water in food and drinks for as long a time as the patient was able to bear it. To alleviate the thirst, which was not usually very severe, the patient was given pellets of ice, small quantities of cold soda water, slices of lemon. At the end of a few days a larger amount of fluids was permitted. The object of this proceding is to prevent a new transudation of the serum into the abdominal cavity, so that the peritoneal layers may remain in close contact. The patients always submitted willingly to these measures.

(4) By the administration of opium, the intestines were kept at rest.

The author reports three cases successfully treated by his method. He concedes that it is difficult, in cases not subjected to laparotomy, to be sure of the tuberculous character of the peritoneal affection, but considers his method as curative in non-tuberculous chronic peritonitis.—*International Journal of Surgery.*

DELAYED UNION OF TIBIA TREATED WITH CHLORIDE OF ZINC INJECTION.

A man, forty-three years of age, sustained a compound fracture of both bones of the leg in the upper part. On the third day a plaster-of-Paris splint was applied, and allowed to remain for forty-seven days. No union took place, and the apparatus was reapplied for a month. After similar treatment for five months without union, Ménard injected one and one-fourth grammes of a ten per cent. solution of chloride of zinc on the anterior and posterior surfaces of the tibia and between the ends of the fragments, without an anæsthetic, causing severe pain. Immobilization was continued for fifteen days, and then union had begun and was solid in one month. The method has the serious objection of being very painful.—*Dr. M. Ménard in International Medical Magazine.*

A NEW TREATMENT FOR SURGICAL TUBERCULOSIS.

M. Bier (of Kiel) recommends a treatment that he has used with good results in 20 diverse cases of tuberculosis. It consists in bandaging the lower part of the limb, then above the diseased part to apply an elastic band sufficiently tight to cause a venous hyperæmia in the affected region. From the very first day a distinct amelioration of the subjective symptoms was seen; also there was an improvement in the function of the affected joints.—*Bulletin Général de Thérapeutique.* J.A.A.

ORTHOPEDIC SURGERY

BY

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OPERATIONS ON TUBERCULOUS HIP JOINTS.

Between 1873 and 1892, Dr. Poore operated on sixty-seven cases of tuberculous disease of the hip in children between three and fifteen. Excision was performed in sixty-five cases, erasion in five, trochanter major trephined in eight, and the central cavity of the former cleaned out in eleven cases.

In all cases of excision the disease was pronounced, and accompanied by abscess. All abscesses are opened as soon as discovered, the parts are scraped or excised, and of late the tubercular tissue is removed as thoroughly as possible. After removing the capsule, scraping out the acetabulum, and removing carious bone as far as possible, the wound is flushed by mercuric solution (1-1000) and sutured, leaving a part packed to the bottom with iodoform gauze so as to provide free drainage. The author thinks it doubtful whether all infected tissue is ever removed. He has discarded the rubber drainage tube. The incision preferred is one commencing on the outer side, just above the anterior superior spine, and produced downward about four or five inches. Of late he has used the chisel in preference to the saw in excising the bone, and in flushing the wound he uses a modification of Barker's scoop.

Results. Thirty-two children were discharged cured, twenty-five died, three were relieved, two not improved, and four remain in the hospital. The author finds that the riding upward of the femur on the pelvis when the weight is borne on the limb is a serious impediment to walking. This does not occur when only the head has been removed, and when the extension employed has not been sufficient to draw the neck away from the cavity of the acetabulum. It is also desirable to have as much and as dense cicatricial tissue above the point of section as possible, so as to form a buttress to prevent riding upward. For a similar reason, it is not desirable to obtain immediate closure of the wound. A strong hip splint should be worn for at least one year after cure.—*New York Medical Journal*, April, 1892.

FORCIBLE OVER-CORRECTION IN THE TREATMENT OF RIGID FLAT-FOOT.

Dr. Whitman, of New York, has without doubt made, recently, some of the most important contributions to the study of flat-foot to be found in surgical literature.

He bases his treatment on the principle that the proper position and functions of the foot must be regained before we may hope for permanent cure. The operation recommended is that of "forcible *over-correction* of the deformity, not primarily for the purpose of replacing dislocated bones, but to forcibly overstretch all contracted parts and to break up all adhesions which resist and restrain the movements of the extension and adduction, the essential movement for carrying out the normal step." The foot is forcibly moved in every direction to break up adhesions, and is finally extended and twisted inward as far as possible. In this position contracted muscles, ligaments, and fascia are stretched to their extreme limit, and weakened and lengthened ligaments are relaxed . . . A well-fitting plaster bandage is applied in the over-corrected position, and the patient allowed to walk about. At the end of the week the plaster is removed, a cast taken, as a guide to making and supporting brace. Voluntary assumption of the corrected position becomes possible when the adductor muscles regain their power. These *must regain their normal balance* in order to guard against relapse. The trace is constantly worn, and such a shoe worn as will cause the weight line to fall slightly to the outer side. In walking the patient must not evert the feet, but must point them straight ahead, so that he raises the body and flexes the foot in the normal manner by muscular power. The patient must be made to understand that cure is not assured by a brace or by an operation, but by his own exertion.—*Annals of Surgery*, January, 1893.

TENDON ANASTAMOSIS IN INFANTILE PARALYSIS.

In May, 1892, Dr. Parrish, of New York (Journal of the American Medical Association, Jan. 28th, 1893), performed this operation by suturing the paralyzed extensor pollicis to the tendon of the healthy anterior tibial muscle. A second operation became necessary in the same child, and Dr. Parrish joined the tendon of the posterior tibial muscle to the gastrocnemius. In September, 1892, Dr. A. M. Phelps, of New York (*New York Medical Journal*, Oct. 8th, 1892), in the presence of the writer and others at the New York Post-Graduate Hospital, sutured the tendon of the paralyzed gastrocnemius and soleus to the tendon of the healthy long flexor of the toes.

At the time neither Dr. Phelps nor those who witnessed his operation knew that it had been performed by Dr. Parrish. The wounds healed kindly and considerable immediate gain resulted, which, no doubt, will increase with lapse of time.

Editorials.

ASIATIC CHOLERA.

No disease is attracting so much attention at the present time as cholera. The general feeling of alarm which exists in Europe and America is probably well founded. The true Asiatic cholera is now in Europe; it will almost certainly reach America in the very near future. It is largely, if not wholly, a preventable disease; and we are glad to see such a general disposition to be up and doing in order that all possible barriers may be placed in the way of the dreaded invader.

Under the circumstances, it seemed a very opportune time to devote a large portion of this issue of THE PRACTITIONER to this important subject, and give a goodly portion of the best literature that we could find. Fortunately, we had plenty of good material at our disposal; and our selected articles, written by men well and favorably known to the medical world, form together an admirable exposition of the subject in all its aspects.

Asiatic cholera, as a scourge, possesses wonderful power for evil under certain circumstances, but becomes perfectly helpless in the presence of cleanliness. The remedy is simple enough in a way, but is largely conspicuous by its absence in our cities, towns, and country districts. In Canada we are trying to put our house in order. The Dominion Government is endeavoring to keep out the disease by a rigid quarantine. The Provincial Governments are encouraging the various boards of health to do good work. Physicians generally are taking a deep interest in the subject, and are doing good service. We hope this issue of the journal will be found, not simply interesting, but actually useful.

FORMER EPIDEMICS OF CHOLERA IN CANADA.

Cholera first reached Canada in 1832. In 1831 it was raging in various parts of Europe, and the Imperial authorities sent communications on the subject. In consequence of the warnings thus received, the first board of health in Canada was formed in Quebec in February, 1832. Cholera first appeared in Quebec on June 8th of that year; in Montreal, June 10th; and thence extended to all parts of Canada. The epidemic lasted about four months. The second epidemic appeared in the quarantine station at Grosse Isle in the latter part of May, 1834; mild at first, but assuming a virulent character in July and August. It also lasted about four months.

The third epidemic entered Canada by Kingston in the latter part of May, 1849. Again it showed its greatest severity in July and August, and lasted about four and a half months.

The fourth epidemic entered Western Canada from the United States in August, 1851, and lasted about two months. Quebec was the last of the large cities to be attacked.

The fifth epidemic occurred in 1854, being brought to this country by two emigrant ships which reached Grosse Isle about the middle of June. Cholera appeared in Quebec, June 20th, and soon spread over the whole of Canada. We have no record of death rates of the early epidemics. An attempt was made by the Central Board of Health to get statistics of the 1854 epidemic, and the records obtained show 4,486 deaths. This is acknowledged to have been far short of the mark, probably less than half. One may form an approximate idea of the terrible ravages of these scourges by doubling the above figures, and then considering that, as far as the whole country was concerned, the fifth epidemic was one of the mildest of the five.

Since 1854 there has been no serious epidemic, but there was a big scare in 1869, and at the same time a few cases of cholera.

THE CHOLERA IN TORONTO IN 1854.

Although the epidemic of 1854 is said to have been one of the mildest of the five which invaded Canada, it was certainly very severe in Toronto and a large portion of Ontario. Among the physicians whose names are prominently mentioned in connection with that scourge are Drs. Richardson, Aikins, Jos. Workman, U. Ogden, H. H. Wright, and the late Drs. Hodder, Rolph, Badgeley, Bovell, Ross, Scott, O'Brien, Telfer, King, Herrick, Small, and Hallowell.

Dr. James H. Richardson, who has a very vivid recollection of events in this epidemic, has given me some important facts and related some interesting incidents in connection therewith. The disease generally followed certain watercourses. It will be interesting, and entirely new to many, to be told that in those days there were a number of streams in Toronto running in ravines to the bay. These ravines have been filled in such a way as to show no trace of the former watercourses. The principal streams were one in the neighborhood of Beverley street; one in St. John's Ward, running in a southeasterly direction past the present site of Holy Trinity church, and crossing Yonge street near the intersection of Albert street; one through the present Normal School grounds.

Of these the most important at that time was the stream in St. John's Ward. All the drainage from houses, privies, etc., in the neighborhood was into this stream, which was therefore simply an open sewer. The ravages of the plague in this vicinity were, as might be expected, very severe.

The first case in Toronto was that of a man who had contracted the disease in St. Louis. The second case occurred on King street, near Church. A careful examination of the premises revealed nothing wrong; but it was afterwards discovered that there was a foul pool of ill-smelling, muck-like material under the house. Dr. Richardson thought that in nearly every case the specific cause could be discovered, and that it was defective drainage, or filth of some sort. It did not appear to be contagious, in the ordinary sense of the term, but there was great danger from the excreta of those affected.

In the treatment of the disease all known remedies were employed. Woolf's combination of tinctures of rhubarb, opium, and camphor was largely used. Great benefit was derived from the use of stimulants (brandy in large quantities) when the stomach could retain it. In a large proportion of cases people were attacked in the first place with a rather severe diarrhœa, known as cholerine, which developed into true cholera. This, when taken in time, generally yielded to ordinary remedies. Electricity was tried, with little or no effect. Bovell hoped for good results from the intravenous injection of milk. He and Hodder tried it, but their example was not followed by others. As will be seen in other columns of this issue, the subcutaneous injection of an ordinary saline solution is quite as effectual, while it is much safer. In a certain proportion of cases there was no preceding cholerine. Dr. Richardson speaks of one case where he saw a man die in one hour and a half after his seizure, which occurred while he was apparently in the best of health.

The doctor stuck to his patients during the whole epidemic—working, literally, night and day during a great portion of the time. He refused no call from high or low, rich or poor; but the low and poor were in a large majority. In one case he found a man on Elizabeth street in a state of collapse. He gave him a glass of brandy. The patient was able to drink the liquor, turned his face to the wall, and died, as the doctor thought. He left the house with this impression, and his surprise was great afterwards to find that the man had rallied and recovered. In another case a washerwoman, who had probably contracted the disease from washing the soiled clothing of cholera patients, lay in a collapsed condition for three days, with blue, shrivelled skin, rice-water stools, and other symptoms about as bad as possible. He gave quinine in 10-grain doses every half hour for some time. The woman, contrary to all expectations, made a good recovery, and, strange to say, gave birth to a healthy child five months later.

Dr. Richardson, in speaking of the good effects of the administration of stimulants, referred with regret to the fact that they had no hypodermic syringes in those days. Probably hypodermoclysis will accomplish much in the future. Apart from this, I felt inclined, after our conversation, to ask the question, How much have we learned about cholera in the last thirty-nine years?

We learned from Koch that the specific organism known as the comma bacillus is the cause of the disease; we have more recently learned that some German servants have swallowed quantities of these bacilli, and neither the Germans nor the bacilli suffered much therefrom. The bacilli, however, do not appear to be a fattening food, nor do they seem to cause cholera in a healthy person in the absence of filth. Dr. Richardson knew the important portion of these facts thirty-nine years ago, but he did not then know much about the comma bacillus, either as a cause of cholera or as an article of diet.

THE SOURCE OF CHOLERA INFECTION IS THE WATER SUPPLY.

It is of the utmost importance to be able to trace the outbreak of any epidemic to its source. It is almost as important as stamping it out. The effect of distance is so great that epidemics and calamities occurring in foreign nations do not impress us as do those in our own midst, nor do the lessons derived from foreign sources as to the cause of those disasters have the same weight they should have with the public. We are prone to be careless, and feel secure in our insecurity; we are most liable to neglect attending to matters that have been proven to be great sources of danger to others, possibly with a sense of security only attained by close communication and frequent intercourse with danger, though at the same time the danger is not appreciated.

Familiarity breeds contempt, and a wonderful carelessness is developed in those who continually handle the deadliest of poisons.

The poison that has lurked in the drinking water of Toronto, and the pabulum that this poison supplies for other and more dangerous bacteria to thrive on, do not seem to be thoroughly grasped by the public. Yet it is from the water supply that outbreaks of cholera have been traced in the past.

Cholera cannot arise *per se;* there must be the specific micro-organism, and that implanted in suitable soil. Isolated epidemics furnish great opportunities for scientific study. The Berlin letter in the *New York Medical Record* furnishes us with a most remarkable instance of this. A positive case of this kind will undoubtedly upset all theories on the impossibility of an epidemic of cholera appearing in a previously healthy locality. It was not necessary for a case of cholera to carry the infection—the bacilli transmitted the disease through the water supply.

"Although the cholera was supposed to be extinct in Germany, there has suddenly appeared an epidemic (local) which will give the bacteriologist and hygienist plenty of food for thought. The epidemic is in the provincial lunatic asylum of Nietleben, near Halle, a.S. This institution I am well acquainted with. It has existed since 1844, and was originally built to accommodate four hundred lunatics from Saxony, but was enlarged in the year 1880. It was built on the old corridor system. The newer additions are all barracks. From 1879 to 1884, seven hundred and fifty to eight hundred and fifty patients were lodged here. The institution is on the confinement system, although the patients are allowed out-of-door exercise and kept at work in the fields and gardens near by. It is situated about two English miles from the University of Halle. The first case of cholera appeared on January 14th, 1893, and the patient died the same day. A *post mortem* was made, and after a careful bacteriological examination in the Hygiene Institute no definite diagnosis was arrived at. The following day three deaths were noted, and later two more; there being, in all, six deaths in the first four days. All cases were examined *post mortem*, and in each the intestinal contents revealed the presence of the characteristic Koch's comma bacillus. The diagnosis of Asiatic cholera was made. The government at once sent Professor Koch to investigate the cause and origin of the disease.

"He found the cause lay in the fact of the inmates having drunk water from the River Saale, impregnated with cholera bacilli, and he was able to detect the bacilli in a sample of this water.

"The morbidity up to date has been 109, and the mortality 38. Since the last few days, the most careful hygienic principles have been carried out (a fresh water supply being obtained through pipes), so that the morbidity has at once fallen, proving that the epidemic will be localized.

"The sanitary condition of Halle is at present excellent, and as the institution is isolated the most stringent quarantine precautions will be taken to prevent the spread of the disease."

Here we have an instance of infection traceable directly to drinking water, with a cessation of the epidemic as soon as pure water is obtained. It is not often that it is possible to demonstrate the bacilli in the drinking water as was done in this case, but its demonstration proves the case beyond doubt.

The two instances cited in Dr. Hartshorne's papers (page 175) are of a very similar nature, but in neither of these cases had the presence of comma bacilli been demonstrated. It was before these organisms had been discovered by Koch.

THE HAMBURG EPIDEMIC OF CHOLERA.

The late outbreak of cholera in Hamburg has been traced to the drinking water. The report of the epidemic by Dr. T. I. Reinke, the head of the Health Department of Hamburg, published in the *Deutsche Med. Wochenschrift*, is very full and elaborate. He reviews the atmospheric condition for the summer of 1892 as being rather cool up to August 13th, when a sudden and excessive heat-wave passed over the city, lasting until Aug. 26th. The rainfall was much below the average, from which cause the ground water began to fall. The Elbe was lower than has been noted since 1877. Only a small quantity of fresh water flowed down the river, and through the harbor. The flood tide ascended much farther up the river than usual. The foul water of the river, into which the city is drained, was prevented from reaching the sea. The tide was continually driving this warm polluted water up and down the river, without its being replaced by pure water from the sea. The temperature of the river water on Aug. 17th was 71.6°F., and the flood tide reached an unusual height.

The first case of cholera reported occurred during the night of Aug. 14th-15th in a workman engaged on the drainage a short distance below where the emigrant barracks discharges its sewage into the Elbe. Until the 20th, the outbreak was confined to people, mostly workmen, in this same neighborhood. The former epidemic in 1873 originated in the same locality. After August 20th the disease spread to all portions of the city in which the water supply was drawn from the ordinary source. The rapid spread, 1100 cases up to August 29th, and the almost entire restriction of the disease to localities where the people used the water from the ordinary supply, appear to prove conclusively that the water was the source of infection. In a court in Altona, a suburb of the city, containing 345 inhabitants, and whose water supply is Elbe river water, *filtered*, not one case occurred. Several instances occurred where large institutions, with private water supply, escaped without a case, notwithstanding that the inhabitants mixed with the public; while institutions supplied with water from the ordinary source suffered greatly—the workhouse 1230 inmates, 45 cases, 13 deaths; Friedrichberg Lunatic Asylum 1363 inmates, 123 cases, 64 deaths.

As soon as the rainfall increased, the water supply became purer and the epidemic soon died out.

This epidemic was the most severe that has ever occurred in the city. There occurred 18,000 cases, with 8200 deaths, being 45.5 per cent. of the cases, and 1.3 per cent. of the population.

The doctor is unable to trace the cause of the outbreak to the emigrant sheds, since no emigrants suffered until Aug. 25th. This proves that the patients were infected in Hamburg. There existed concurrently with this outbreak one of enteric fever, 866 cases occurring in thirteen weeks.

TORONTO WATER SUPPLY.

It is an unquestioned fact that the citizens of Toronto should be made aware of, that in their water supply lurks the factor of disease that will, to a great extent, determine the danger and severity of the epidemic of cholera that is likely to visit the city during the coming summer. The public are not to be unnecessarily alarmed, but should be warned of all sources of danger. An epidemic of cholera is not to-day the terrible scourge or calamity that it was fifty years ago; we doubt very much if its ravages will be as great as those of la grippe during 1890 and 1891.

Medical science of to-day can cope with cholera as surely as it has with worse epidemics; but to do so we must have our water supply of the best possible quality, in order to remove a very important factor in the propagation of the disease. The carelessness in the management of our Waterworks Department must be stopped, and means adopted at once that will secure for the city of Toronto water that is pure, free from the danger of contamination during its transit through the conduit (or whatever other means of transport is adopted), and of such quantity that the supply would be sufficient for every contingency.

The water supply of a great city is one of the most important subjects in its political economy. Toronto is in an unenviable position to-day in that regard, drawing a water supply from a pure source, but in such a manner that it is contaminated to an alarming extent. The subject of water supply and the disposal of sewage here are so intimately connected that the one cannot be discussed without involving the other. The sewage is drained into the bay, and has been ever since a drainage system was adopted, the total discharge of sewage being, say, twenty millions of gallons daily at the present time. Across this sewerage-polluted bay our water supply is carried. The source of supply is Lake Ontario, which contains water of the highest type of purity. The bay is bounded on the south by the Island, of such a shape that its western arm approaches the mainland so closely that a very narrow gap is left; while on the east the gap is wide, but made very shallow by shifting sands, due to the eastern current. The water in the bay is therefore, to a great extent, affected only by the currents during great storms, particularly those from the east.

It will not be difficult to see, from this rough description, that the bay is little less than a huge cesspool—its waters contaminated and poisoned by the drainage into it from many thousands of people for many decades. What a bottom the bay must present! How many feet of solid filth must be there; and, should the water of the bay be changed ever so frequently, how long would it remain uncontaminated with the bed in its present condition, together with the daily deposit of so many millions of gallons of sewage?

We had the exceedingly unpleasant fact of the kind of water we have been drinking brought most forcibly to our attention by the rising of the iron conduit through which our supply is carried, which rising showed us that breaks have existed ever since it was laid. These breaks showed clearly that all the tests that were said to have been made on this conduit by the Superintendent of the Waterworks Department and his engineers were delusions, if not worse. Leaks have been found that would admit, some say, millions of gallons of bay water per day. Bay water, indeed! It is nothing but diluted sewage, and it is horrible to contemplate what results this water has had, and will have, on the health of the city.

There is a proposition before the council now to lay another conduit across this same bay. What are we to do? The people will not be satisfied with water carried across the bay. Tests have proved fallacious before, and may again. Even should the pipe recently relaid be now sound, the liability to a similar break again is great. A small leak may mean a great loss of life to the citizens. We must have pure water brought by a different route than across this cesspool—a route that is not open to the danger of sewage pollution. We believe that Lake Ontario should be the source of our water supply. It appears to be Nature's gift to us. Gravitation and the artesian well system are good; water is purified by being filtered, but not wholly cleansed. Gravitation from Lake Simcoe would be costly and experimental, and the water not as pure as we can get from Lake Ontario. The artesian well, like the natural gas well, is liable to be exhausted, and eventually a return to our present system would be an inevitable result. Any company that would enter into a contract to supply so many millions of gallons of pure water per day could only carry out this contract while the supply lasted.

There are at least two lake currents that have to be taken into account in determining the point from which the supply should be taken. The present in-take pipe, about one-half mile southeast of the western end of the Island, is in fairly good position, although it could be removed farther west without any danger from either current. We take it for granted that some day the city will have a trunk sewer, and it will drain east perhaps to a farm, but, at any rate, out of the bay. The current from the east, supposed to be caused, partially at least, by the force of the Niagara River's discharge on the opposite side of the lake, sweeps around the southern shore of the Island and meets a current from the west caused by the swirl from Mimico Point through Humber Bay, at a point south of the southwest point of the Island. The current in the bay is slight, but from west to east. We believe that the conduit should be laid entirely through pure water, when, in the event of a break, there would be the least danger of receiving impure water. We also believe that the proper place is farther west, say south of Garrison Common, or possibly as far west as Dufferin street. The only change this would necessitate would be moving the pumping station and plant, and laying a large main from Peter street to the new site. A conduit laid there would be little or no more costly in proportion to its length than one laid across the bay, and pure water would be guaranteed.

There is at the present time one slight objection to this scheme, but that is of very small moment indeed. There are three sewers emptying into Lake Ontario west of the Queen's wharf. They have a capacity of, say, three million gallons daily. This sewage could be conveyed to the bay by a trunk or collecting sewer, which would free that portion of the lake entirely from sewage contamination, besides inaugurating the commencement of the trunk sewer system. We feel sure that the question is of grave importance to us as a city, and to the thousands of guests that visit us during the summer. The coming summer will likely see greater crowds of foreign visitors than we have had before, unless they are deterred from visiting us through fear of the evil effect of bad water—an effect that cannot be too seriously considered.

HEALTH MATTERS, ACADEMIC, PROVINCIAL, AND MUNICIPAL.

At a time when the world is watching with intense interest the movements of the cholera epidemic, this interest must, with us, embrace the actions of our own scientific and executive authorities.

The Provincial Board of Health does not intend to be caught napping, but has already begun to organize a corps of volunteers from whom may be drawn inspectors and other sanitary officers, should occasion arise for their employment. For the last two or three decades the subject of hygiene has been rapidly forging to the front, and the final students and graduates of the past few years have received a good drilling in the following among other subjects embraced in the syllabus to be found in the calendar of the University of Toronto: "Contagion and infection, management of epidemics, quarantine; duties and functions of medical health officers and boards of health; vital statistics; sanitary legislation, federal, provincial, and municipal." A special course in bacteriology has also been instituted by the professor of biology, and the pathogenic bacteria have been handled both in didactic lectures and in the bacteriological laboratory. And now Dr. Bryce and Mr. J. J. Mackenzie, B.A., under the auspices of the Provincial Board, are directing the members of the volunteer corps above mentioned to details regarding the epidemic which is at present abroad, the latter describing the natural history and peculiarities of the cholera spirillum and the action upon it of germicides and other circumstances, and the former pointing out the specific channels along which it has been conveyed since it started on its travels, and the possible and probable channels of the future, the localities to be guarded, and the precise action to be taken and which can be practically taken under varying circumstances. And what is of the greatest importance of all, he is forming a personal acquaintance with men, some of whom may be called upon to act in concert with him.

We all hope cholera may not come near our borders; in that case no harm will have been done. Should our hopes be doomed to disappointment, it will then be deemed a good thing that the Provincial Board has not built upon them to the neglect of reasonable precautions and preparations.

In deplorable contrast with the action of the Provincial Board is that of the Local Board and Municipal Council of this city, who assume to consider that some defects in bookkeeping and financial management give sufficient excuse (we will not say cause) for the disorganization—reorganization they call it—of the Health Department at this critical period. The capacity for judgment in such matters may be estimated by some of the criticisms of our aldermanic magnates; that "too much milk was supplied" for the poor little diphtheria patients; that "there appeared to be more nurses than patients"—and yet at one time there was only one nurse to eleven cases of diphtheria; that "if the Health Department be wiped out of existence we shall have no cholera!" After contemplating how little sanitary science has done to improve the ideas of some people, it is a comfort to be reassured that "the world moves still."

W. O.

Book Reviews.

For further information regarding the following publications communicate with J. A. CARVETH & Co.
Medical Bookstore, 413 Parliament Street, Toronto. Agents for Canada.

PRACTICE OF MEDICINE. By Edwin T. Doubleday, M.D., and J. Darwin Nagel. Lea Brothers & Co., Philadelphia.

This is one of the Students' Quiz Series. It is arranged in the form of question and answer, being compiled from most of the well-known authors. It may be of assistance to the student who is anxious to hurriedly review his work.

ESSENTIALS OF DIAGNOSIS. By Solomon Salis Cohen, M.D., and Augustus A. Eshner, M.D. W. B. Saunders, Philadelphia.

This is one of the series of Saunders' Question Compends, being arranged in the form of question and answer. The authors are careful to advise the student not to depend upon it to the exclusion of standard works. At the same time a great deal of valuable information will be found here put in a clear and concise manner, and no doubt the work will materially aid the student.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS, with especial reference to the application of remedial measures to diseases, and their employment upon a rational basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia ; Laureate of the Royal Academy of Medicine in Belgium, of the Medical Society of London, etc. ; President of the Section of Therapeutics in the Pan-American Medical Congress. Third edition. Enlarged and thoroughly revised. Philadelphia : Lea Brothers & Co., 1892.

This book was first issued two years ago, and the fact that in such a short space of time a third edition has been rendered necessary speaks well for its popularity. It is divided into four parts : Part I. treats of general therapeutic considerations, such as modes of action of drugs, modes of administering them, dosage, idiosyncrasy, indications and contraindications for their exhibition, combination of drugs, incompatibility, etc. Part II. is a compilation of all the drugs now considered valuable, arranged in alphabetical order, presumably for convenience of reference. Each drug is described, and its source briefly mentioned. The physiological action is fully but succinctly set forth, and this is followed by a statement of its therapeutic uses, based both upon its physiological action and the experience of practitioners. A very useful addition to this part of the work is a paragraph on "Administration," which gives the book a practical value to both students and physicians which very few works on therapeutics possess. Another important paragraph is that entitled "Contraindications," in which the factors which render the use of the drug inadvisable are set forth. Part III. deals with remedial measures other than drugs, and gives a list of foods suitable for the sick. Part IV. is an enumeration of diseases in alphabetical order, with an outline of treatment for each. The various drugs generally used are mentioned, and their relative value in the author's judgment clearly defined. The plan of the book is good, and has been very well carried out. The reader is not left in doubt of the opinions of the author—a statement which cannot be made about all books.

Medical Items.

DR. A. H. FERGUSON, Winnipeg, by invitation, addressed the Minnesota Academy of Medicine on the subject of "Hydatids."

DR. J. F. W. ROSS has been appointed gynecologist to St. Michael's Hospital, Toronto.

DR. FENTON, one of the resident assistants, Toronto General Hospital, who was seriously ill with septicæmia, resulting from a wound received in the *post-mortem* room, has recovered.

DR. HARRY OLDRIGHT, son of Dr. William Oldright, who has been abroad for about two years, has commenced practice in Toronto, 261 College street.

OBITUARY.

WE were promised definite information with reference to Dr. Worthington, of Clinton, whose death we announced in our last issue, but through some accident it has not reached us. However, we may say he was over forty years in practice, becoming a member of the College of Physicians and Surgeons, Lower Canada, in 1851. He was well known and highly respected by his confrères, and had the honor of being a past-president of the Ontario Medical Association. He was one of the chief workers in the organization of the Huron Medical Association.

DR. C. STEWART GRAFTON died at the residence of his father, in Dundas, March 7th, from phthisis, after a long and tedious illness, at the age of 32. He was educated in the Toronto School of Medicine, received his degree of M.D. from Victoria in 1883, and became a Licentiate of the Royal College of Physicians, Edinburgh, the latter part of the same year. He practised for some years in Toronto, until failing health compelled him to give up work. He was in all respects an admirable type of a man and a physician. He was successful in practice, and beloved by all who knew him intimately. He leaves a wife and one child.

DR. JOHN GRANT, of 278 Dundas street, Toronto, died March 3rd. On account of advancing age and inactivity in practice, he was not well known to younger physicians; but in former times he was active, and had a good standing in the profession. He was one of the survivors of the rebellion of 1837, being at that time a surgeon-major of the Volunteer Rifles. He was an L.F.P.S. Glasgow, and became a licentiate of the old Medical Board in 1831.

ONTARIO MEDICAL ASSOCIATION.—As will be seen from a reference to the advertising columns, the date of the thirteenth annual meeting of the association has been postponed from the 7th and 8th to the 21st and 22nd of

June. The executive has been led to this step for the reason that the American Medical Association holds its annual meeting in Milwaukee on the 6th, 7th, 8th, and 9th of June. Another large gathering of physicians will take place in Omaha during the week previous, in connection with the National Association of Railroad Surgeons. Neither of these meetings would interfere with the annual meeting of the Ontario Medical Association under ordinary circumstances, but this year a special effort is being made to organize a large excursion for the medical profession to the Chicago exhibition in connection with one or both of the above gatherings, and the railroad authorities are offering persuasive inducements in the way of reduced fares. The executive, in consequence, deemed that it would best conserve the interests of the association by postponing the annual meeting two weeks beyond its regular date. The attention of the members is drawn to the change in order that they may make their plans for the summer in such a way as to allow them to attend this meeting. D. J. GIBB WISHART, general secretary.

THE PAN-AMERICAN MEDICAL CONGRESS.—The section on Laryngology and Rhinology of the Pan-American Medical Congress is now thoroughly organized, with secretaries in all the countries of South America, as well as in the United States and Canada. The president, Dr. E. Fletcher Ingals, of Chicago, is making a thorough canvass to secure a large number of good papers for the section, and aided as he will be by the secretaries, Drs. Murray and Alonso, and the corps of honorary presidents, he feels assured of the success of this department of the congress. All physicians interested in this section are requested to correspond with the secretary (English) for the United States, DR. T. MORRIS MURRAY, Washington, D.C.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.—Through the courtesy of His Honor the Lieutenant-Governor of Ontario, a communication has been received by the secretary of the Ontario Medical Association, covering an invitation from the Central Committee of the Eleventh International Medical Congress, meeting in Rome on the 24th of September, 1893, to the president and members of the Ontario Medical Association, to appoint delegates to this congress. Any member of the association who may find it convenient to attend this congress should communicate early with the secretary, Dr. D. J. Gibb Wishart, 17 Grosvenor street, Toronto.

AT a meeting of the Windsor Physicians and Surgeons' Association, held February 13th, 1893, the following resolution was unanimously adopted: "Whereas a number of medical practitioners are endeavoring to secure legislation in a manner subversive to the usefulness of the Ontario Medical Council; we who daily contrast the medical legislation of Michigan with the efficient legislation of Ontario beg to express our entire confidence in our Medical Council. And we beg to urge that any change in legislation that we may desire should be brought about only through the Council by the representatives whom we elect. D. E. BROOK, M.D., secretary."

THE

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Original Communications.

ELIMINATIVE AND ANTISEPTIC TREATMENT OF TYPHOID.

By W. B. Thistle, M.D., L.R.C.P. Lond.,
Assistant Demonstrator of Anatomy, University of Toronto; Physician to Victoria Hospital for Sick Children; Clinical Lecturer on Diseases of Children in the Woman's Medical College.

IN bringing before you these few notes on the treatment of typhoid fever, I feel that, although the subject is somewhat well worn, no apology is necessary, since every form of treatment so far advocated has, in its general application, met with but a very limited degree of success. The result can scarcely be termed a success in any sense; for typhoid infection has hitherto, no matter what form of treatment may have been adopted, entailed a more or less prolonged period of severe illness, with great prostration, not to mention the very considerable risk of a fatal termination ensuing.

The many plans of treatment advocated from time to time indicate clearly the unsatisfactory results attained. This dissatisfaction was felt to such a degree that it expressed itself in what has been termed a form of treatment which consisted, in essence, of no treatment whatever in so far as the disease was concerned; whatever was done being simply in the way of looking after the patient's surroundings and promoting his comfort. This "expectant plan," as it has been termed, has still many adherents, some of whom have apparently come to the definite conclusion that any attempt at curative treatment must of necessity be futile. Indeed, this even is expressed explicitly, for in a recent text-book the author begins his chapter on treatment with the reflection that "the profession was long in learning that typhoid fever is not a disease to be treated by medicines."

Until the developments of recent years regarding the nature and causation of the disease, the various treatments were of necessity empirical. Now, however, since the discoveries in bacteriology have demonstrated both the cause of the disease and the manner in which it produces its effects, we are in a position to proceed logically. In order that we may do so it is, however, necessary that we have a clear conception of the nature of the causative agent, and also, what is in this case of more importance, the manner in which the results of infection are produced.

Before proceeding to discuss the plan of treatment which I am advocating in this paper, let us review briefly what we know regarding the pathology of the disease and the nature and *modus operandi* of the infective agent. It is now well established that typhoid fever is the result of the location and growth in the body of a specific form of bacterium. It may, perhaps, be conceded that other organisms, in addition to the specific bacillus, play some part in the production of the phenomena of the disease. It is, however, sufficient for our purpose that we ascribe the results to infection by minute fungi, which are located primarily and chiefly in the alimentary canal. It is just as clearly established that these bacteria are themselves harmless, whatever results are produced as a consequence of their lodgment and growth in the body being due to the action of a chemical substance elaborated by them in the process of growth. For it has been demonstrated by Brieger, and also by Vaughan and Novy, that this typho-toxine, as it has been named, separated from bacterial cultures, will cause necrosis of the tissues with which it comes in contact, the severity of the lesion produced depending upon the degree of concentration of the poison. It is, in fact, as Woodhead expresses it, a "caustic." If a certain quantity of this substance be given, it causes dilatation of the pupil. Delirium is a result of its action upon the cerebral centres, this condition merging into paralysis and coma if the dose be sufficiently increased. Elevation of temperature depends upon its action upon the thermic centres. We have, then, to consider the bacterium and its product, and we place them respectively in the relation of remote and immediate cause to all the phenomena of the disease. The condition is, in fact, a poisoning by a chemical substance, which is not taken at one or at several doses, but which is produced constantly and gradually in the body itself. The main laboratory for its formation is the intestinal canal; for while the bacilli are found in the lymph spaces, blood, and solid viscera, yet the great mass of bacterial growth is located in the intestinal tract. We must also notice that the amount of toxine produced is, of necessity, in exact proportion to the number of bacilli present. In like manner, the tissue changes and derangements of function occur in direct proportion to the quantity of poison generated, to its degree of concentration, and to the length of time it remains in contact with the tissues.

Having seen, then, that cell destruction in typhoid fever, whether in the lymph follicles of the intestine or in the wall of an artery, in the muscular fibre or in the nerve mechanism which governs its action, is due to this substance and to it only, and knowing also the source from whence it is derived and the conditions which intensify and diminish its action, can we by any form of treatment (1) get rid of any portion of poison already formed; (2) prevent, to any extent, the production of further poison; (3) limit, to any degree, the action of the poison already in contact with the tissues? I am of opinion that by the adoption of a plan of treatment which combines free elimination with antisepsis these several results can be obtained. Let us consider, first, the question of elimination, for I believe it to be the more important factor.

If we suppose a case of typhoid infection, the contents of the intestine teeming with bacilli, and also holding in solution a quantity of the toxic material as yet outside the circulation, and if by giving a purgative medicine we are able to sweep a quantity of this substance out, together with the fungi which produced it, we have certainly attained our first object, and have got rid of some of the poison already formed. But purgation not only casts forth what is already in the intestine, but also causes a change in the fluids of the body throughout; and if we reflect that the toxine which has been absorbed from the intestine, and which has been formed by the colonies of bacteria located in the various parts of the body, is held in solution by these fluids, we necessarily lessen its quantity by purgation. We are able to produce this desired change in the fluids of the body by another process—the giving of fluids freely, thereby increasing the flow of urine and eliminating through that channel.

We have next to adopt means to prevent further formation of poison. This can be accomplished by either of two processes—or, better, by a combination of the two—purgation and antisepsis. It is obvious that if we sweep out, with every movement of the bowels, immense numbers of bacteria which would otherwise remain in the body, we are to that extent preventing the further formation of poison. It is also clear that if we can introduce into the intestine any substance which will have the effect either of destroying the bacilli or of diminishing their rate of multiplication, a like result is obtained. It is, I believe, now beyond question that we have in salol, thymol, naphthol, salicylate of bismuth, and many others, a num ber of agents which are destructive to bacteria localized in the intestinal canal. As a proof of this germicidal action, we have the fact regarding salol, which has been noted by various observers, and which my own experience corroborates, that it is possible to completely deodorize the contents of the intestine by giving this drug. The germicidal effects of these drugs is also well shown by the results obtained by their use in the treatment of mycotic diarrhœas.

Regarding the third indication for treatment, if we remember that the intensity of the action of the poison depends upon its degree of concentration, then it is apparent that to modify its action we have simply to dilute it. This we can do quite readily by giving water in large quantities, regularly and systematically. I am inclined to believe that the improved results obtained by enteroclysis and by the cold-bath treatment are explained in this way: By enteroclysis large quantities of water are taken up from the intestinal canal, and by cold bathing loss of water is prevented.

In theory, then, I claim that this plan of treatment, embracing free elimination and antisepsis—and I should add dilution—is most reasonable, and from a logical standpoint unassailable. Before, however, putting it in practice, we have still another question to answer: Is its adoption fraught with any increase of danger to the patient? I say, No. On the contrary, it diminishes the risk to which he is exposed.

I am well aware that purgation in typhoid fever has hitherto been condemned because it was believed the liability to the occurrence of hemorrhage and of perforation were much increased thereby. I am also aware that the professional mind has undergone some change regarding this subject in recent years; *e.g.*, Fagge, of 1886, cautions against the initial purge, claiming that much harm resulted. To-day, many authors ascribe benefit to its action on the general principle of clearing out.

Let us first look at the facts concerning perforation. Since the extent of the necrotic process depends upon the quantity of poison present, its degree of concentration, and the length of time it is allowed to remain in contact with the cells, then it follows that elimination and dilution must lessen the destruction in the intestinal follicles. But suppose the ulceration to be deep at the time the patient comes under observation, are we then to allow the "caustic" to continue in its work of cell-destruction, or are we to attenuate and remove it in the way indicated? Certainly, the latter plan seems the reasonable one to adopt. It is, however, objected that the ulceration is perhaps so deep that any increase of movement consequent upon purgation may cause the rupture. Let us here notice what follows upon the administration of a purgative medicine. There is increase of peristaltic movement; but here we must remember we have made no radical change, but have simply increased the rate of existing movement. Moreover, by purgation we get rid of irritating matter and gases which were perhaps exciting violent peristalsis. But, again, it may be urged that to accomplish this removal you must increase the expulsive movement still further ; not necessarily so at that portion of the intestine, for purgatives act chiefly by virtue of their power to produce free secretion from the intestinal wall, so that the process is largely of the nature of a flushing out. Landon Brunton, by injecting a solution of magnesia sulph. into the intestine, was able to produce a secretion, in four hours, of fifty-six minims to the square inch of intestine acted upon.

Not only does purgation not increase, but it can be proved that it actually diminishes the chance of perforation. It is obvious that the more the intestine is distended, the thinner those structures which form the flood of the ulcer become. Now, this condition of distension is common in typhoid fever, and depends upon a paralysis of the intestinal muscles resulting from the action of the toxine upon the nerve centres. Hence, if by purgation the cause of the paralysis is got rid of, there is return of muscular tone, which is the condition least favorable for the occurrence of perforation.

Let us now turn to the question of intestinal hemorrhage, which hemorrhage can, of course, occur only from a vessel laid bare by the process of ulceration. At the outset, I should like to draw attention to two facts regarding arterial hemorrhage. Gowers, speaking of the pathology of cerebral hemorrhage, says that "the force that ruptures an artery is the pressure of the blood within it," and, again, "healthy veins may give way under extreme pressure, but arteries do so seldom, perhaps never." Accepting these statements, then, and applying them in typhoid fever, we have the two factors in the production of hemorrhage—the toxine corrodes the arterial wall, the blood pressure ruptures it. If we remove the toxic material from contact with the vessel and diminish the intensity of its action, we certainly, as in the case of the intestinal follicles, limit the extent of the damage to the vessel wall. But it is claimed that the increase of movement of the intestinal wall may cause laceration of the exposed artery. In other words, we are asked to believe that a vessel whose wall is so fragile that it may be broken by this slight increase of vibratory movement in the membrane in which it is lodged is at the same time, if freed from this extra movement, capable of sustaining the blood pressure. Then, again, is it a fact that increase of movement in the intestine involves strain upon the vessel which ramifies in its walls? One can understand readily enough how the vessel might be stretched and torn as a result of paralysis of the muscular wall of the intestine, and its consequent distension with gas. Purgation, then, to my mind, in no case causes rupture of an artery, but at all times tends to prevent its occurrence.

So strongly have I been impressed with the correctness of these views regarding the treatment of typhoid fever that for some time past I have carried them out in practice, with none but the happiest results. I have to report thirteen consecutive cases. In every case the plan of treatment was the same, and consisted of purgation very freely until the symptoms indicated lessening of the toxæmia; elimination still maintained by giving purgatives daily as much as seemed necessary, having in view the number of times the bowels had acted, and also the desirability of freer elimination. The best results were obtained where the bowels had moved five or six times a day for several days, and after that two, three, or four times a day until the temperature became normal. Where the calomel did not produce sufficiently free elimination, I combined with it daily enemata of glycerine. As a rule, when free movement had been once obtained, it was not difficult to secure as many movements per diem as seemed necessary. Calomel is convenient, and may perhaps have some antiseptic effect; but apart from that I see no reason why salines or other purgatives should not be used. I have in every case prescribed and encouraged the regular drinking of large quantities of water, in order to promote elimination, and at the same time act as a diluent. As a germicidal agent, I chose salol alone in all but one case, in which I combined with it naphthol. In the adult case the dose was ten grains every three hours. In all the more recent cases I inquired regarding the odor of the evacuations, and in every case found that the stools lost their offensive character. In three of my earliest cases I unfortunately neglected to secure charts, but have notes briefly as to their course, termination, and general symptoms. In the remaining ten cases I have complete charts and notes.

Case 1. Miss S., æt. 19. Temperature 104° when first seen; face flushed, pupils widely dilated, thickly-coated tongue, offensive breath, intense headache, stools extremely offensive, epistaxis, slight delirium at night, drowsy during the day. Rash present during first week.

Treatment. Free purgations daily. Salol and beta-naphthol, grs. v. of each every three hours. Water given freely. Headache disappeared shortly. No further delirium. Stools lost offensive odor. Pupils became normal. Temperature normal on tenth day, and continued so. Tongue cleaned shortly after.

Case 2. Mr. McK., æt. 42. Headache extreme, occipital and frontal; pupils dilated; thickly-coated tongue; temperature 102° when first seen; constipation at first; no rash; anorexia.

Treatment. Free purgations daily. Salol, grs. x., every three hours; fluids freely. Temperature normal on twelfth day, but tongue remained coated for several days; lost weight considerably during the attack.

Case 3. Mrs. E., æt. 38. Intense headache at first; slight delirium for few days; rash during the second week; tympanites slight during early days; coated tongue; temperature 103° and slightly above for first few days, after that gradual decline until normal on fourteenth day; stools deodorized; no bad symptoms.

Treatment as in Case 2.

Case 4. Miss G.B., æt. 19. Headache; coated tongue; rash appeared on fourth day; slight epistaxis at first; bowels constipated; delirium slight at night at commencement; temperature on first day, 103.2°, ranging a few points above 102° during first week, declining gradually until normal on ninth day; no tympanites.

Treatment as in Case 2.

Case 5. Thomas R., æt. 28. Temperature at first visit, 103.1°, gradual fall until normal on tenth day; violent headache; no delirium; coated tongue throughout; epistaxis on several occasions; no rash; no tympanites; dilated pupils at first; enlargement of spleen; stools deodorized; lost flesh considerably during attack.

Treatment as in preceding case.

Case 6. George G., æt. 28. Temperature 104.1° at first visit, between 103° and 104° for first week, gradual decline after that until normal on fourteenth day; delirium on first night; headache intense; constipation; rash during first week; nose bled frequently; no tympanites; stools lost offensive character after a few days; spleen enlarged; second slight rise of temperature occurred, lasting for three days, associated with pain and tenderness over the liver; phlebitis in left leg during convalescence.

Treatment as in other cases.

Case 7. Helen B., æt. 5. Temperature 103.1° at first visit; child was at school three days before; temperature between 102° and 103° for first week, after that declined gradually until normal on evening of seventeenth day; no subsequent rise; headache intense; nose bled several times; tympanites at first, but disappeared; constipation obstinate at first, so that there was difficulty in securing elimination; stools lost offensive character; rash on second week, but scanty.

Treatment as in other cases, and in addition salines.

Case 8. James M., æt. 26. Temperature in axilla at first visit 101°, continuing between 101° and 102° degrees for first week, then declining gradually until normal on twelfth day; coated tongue; pulpy gums; intense headache at first; disturbed sleep, but no delirium; widely-dilated pupils at commencement; spleen much enlarged and tender; flushed face; anorexia; no tympanites; stools lost offensive odor; rash, a few spots, during end of first week.

Treatment as in other cases, with daily enemata of glycerine to facilitate elimination.

Case 9. Miss B., æt. 18. Temperature 102° on first visit; headache; coated tongue; rash appeared on fifth day; no tympanites; temperature normal on evening of thirteenth day; no subsequent rise.

Case 10. George B., æt. 22. Seen first on February 10th. Temperature in axilla, 101.2°; tongue thickly coated; headache intense; pains in back; face deeply flushed and perspiring; epistaxis. Temperature remained between 101° and 102° for three days, then became lower gradually until normal in axilla on sixth day. Tongue still remained coated.

Treatment same.

Case 11. Seen again on February 26th. Since February 15th had been apparently quite well; was up and about until two or three days previous to visit, when the headache and fever returned. At first visit the temperature was 103°; second day, 103°; third day, 103.1°; fourth day, 103.1°, and on fifth day 104°; from that time each day registered lower until the normal was reached on the tenth day. No subsequent rise. Tongue remained thickly coated throughout. A perfectly typical and abundant rash appeared on the ninth day, and was present when temperature became normal. I counted fifteen spots on abdomen alone.

Symptoms. Intense headache; constipation; dilated pupils; disturbed sleep, but no delirium; frequent epistaxis; spleen enlarged; no tympanites; stools lost offensive odor.

Treatment as in other cases.

Remarks. In this case purgation was thoroughly and satisfactorily carried out, the bowels moving every day between four and seven times. That the first attack was of the same nature as the second is quite clear to my mind, sufficient infection remaining to give rise, after a time, to this recrudescence.

Case 12. Mr. S., æt. 29. Chill; intense headache and muscular pains; face flushed and pupils dilated; coated tongue throughout; epistaxis; foul breath. Temperature became normal at end of second week. Lost flesh rapidly during the attack. No tympanites; no delirium, but leep much disturbed by wild dreams. A few spots, not very typical, on abdomen.

Treatment as in other cases.

Case 13. Alfred D., æt. 5 years. Temperature 104.1° when first seen; very drowsy and almost comatose. Urine had to be drawn by catheter for several days. Pupils were widely dilated and face deeply flushed. Temperature normal on seventh day. Tongue cleaned several days after.

Treatment as in other cases.

Analysis of cases. Average duration of fever, 11 days. Hemorrhage, none; perforation, none. Tympanites in no case developed while patient was under treatment; and, where present, quickly disappeared. Excessive diarrhœa in no case. Delirium present to slight degree in four cases, but quickly disappeared. Stools deodorized in every case. Rash present in nine cases.

For four of these cases I am indebted to medical friends, who were kind enough to put their patients under the plan of treatment I had adopted.

TUBERCULAR CYST OF THE PERITONEUM SIMULATING HYDATID CYST OF THE LIVER.

By A. McPhedran, M.B.,

Associate Professor of Medicine and Clinical Medicine, University of Toronto, etc.

JOHN H., aged 30. Of good personal and family history, except that his father is said to have died of chronic bronchitis at the age of 63. About February 1st, 1892, he was suddenly attacked, while at work, with symptoms of acute catarrhal gastritis. He had nausea, continuous pain in the stomach, griping pains in the bowels, belching of gas. Vomiting soon followed, and recurred sometimes several times daily; at other times not more than once a week. There was loss of appetite, bowels irregular, constipation alternating with obstinate diarrhœa, with pale, often frothy, stools. Within a day or two of the commencement of this attack, he first noticed fullness of the lower part of the chest.

These symptoms continued, with varying intensity, during February and March, during which time he was confined to his room, and most of the time to his bed. By the middle of April he felt so far recovered as to be able to return to his farm work, and for a couple of weeks improved, gaining in weight somewhat. Then the symptoms returned with greater severity. The pain in the epigastrium was more severe, with considerable tenderness. The vomit sometimes contained brown, shreddy masses.

Status præsens. He entered the Toronto General Hospital, July 5th, 1892. There was slight anæmia, but no emaciation. For three weeks previously there had been considerable œdema of the lower extremities and some ascites, but no œdema of face. He lay with greatest ease on either side. The lower part of the thorax and upper part of the abdomen were greatly enlarged in all diameters, the enlargement of the thorax being most marked on the left side. Tenderness over epigastric and right hypochondriac regions. Slight degree of fluctuation could be obtained two inches above and a little to the right of the umbilicus; occasionally a thrill could be made out in this area (see fiig. 1).

Heart displaced upward, as indicated in figure. Considerable flatulence. Urine, normal in quantity and quality; specific gravity, 1020. A needle was passed into the epigastrium and some fluid easily withdrawn. It was opalescent, of pale straw color; specific gravity, 100; alkaline; contained no bile; chlorides abundant; albumen about one-fifth by volume after standing for twenty-four hours. There were a good many red blood corpuscles present. No hooklets could be found. The needle was also introduced in the left fifth intercostal space in the anterior axillary line, and similar fluid obtained.

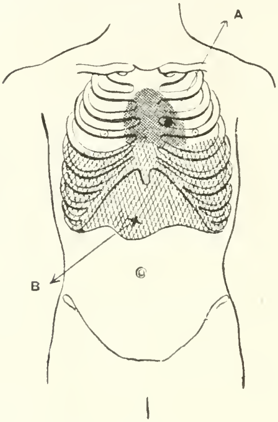

FIG. I.
A. Cardiac impulse. *B*. Thrill.

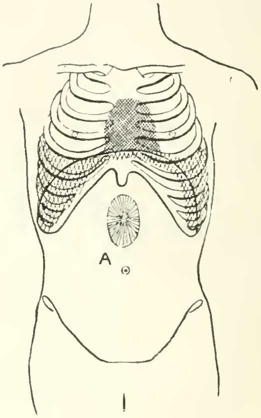

FIG. II.
A. Funnel-shaped depression.

July 15th, ten days after entering the hospital, the œdema of the legs had disappeared.

July 22nd. A median incision two inches long, beginning one inch below the ensiform cartilage, was made by my colleague, Dr. I. H. Cameron, exposing the pyloric end of the stomach lying in and adherent to the liver. Projecting slightly below the border of the liver was found a tense fluctuating mass. This was punctured, and a large amount of fluid evacuated. The wall of the cyst was thick and dense, and presented in the part exposed many small nodules, probably due to tuberculous deposit, the whole cystic formation doubtless resulting from tubercular peritonitis. The margins of the incision in the cyst were stitched to the abdominal incision and a drainage tube introduced.

Improvement was uninterrupted, and the drainage tube was forced out by August 8th. By this time the epigastrium was much retracted, forming a funnel-shaped depression (see fig. 2), with the opening at the bottom. Passing above and around to the right of this depression were the pyloric end of the stomach and duodenum, obliterating hepatic dullness in this area.

Remarks. Encysted collections of fluid in the abdomen may consist of (1) simple serous cysts; (2) localized dropsy, requiring for their production (*a*) previous inflammation to produce the conditions necessary to form a sac wall, and (*b*) a lesion, causing dropsy, as disease of the heart, liver, or kidneys; (3) hydatid cysts; and (4) peritonitis, simple, tubercular, or cancerous.

In the present case, the first and second conditions need not be discussed, as efficient causes for the existing phenomena could only be produced by either the third or fourth conditions, and it was between these two that the diagnosis had to be made. The general appearance of the patient, he did not appear to be suffering from such an extensive lesion of the peritoneum; the gradual development of the cyst, for it evidently existed some time before February; the absence of pyrexia; the absence of a previous history of disease of the peritoneum; the prominence of the pressure symptoms; the high tension of the cyst, with the fremitus, however, only occasionally obtained; and the peculiar outline presented by the cyst, all indicated hydatid cyst of the liver.

The character of the fluid, however, contraindicated hydatid, in that it contained too much albumen—one-fifth, by volume—as well as a number of red blood corpuscles. Its specific gravity (1009) and color might occur in either hydatid or ascitic fluid of any origin. The presence of blood corpuscles strongly indicated carcinomatous or tubercular disease, but may occur in other conditions. The symptoms presented at the beginning of his illness in February not infrequently occur with the development of tubercular peritonitis.

THE TREATMENT OF VARICOSE VEINS OF THE LOWER EXTREMITIES.*

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Although my subject is as given, "The Treatment of Varicose Veins of the Lower Extremities," I do not propose, in this short paper, to attempt to treat the subject exhaustively, still less to criticize published opinions upon the advantages and disadvantages of the different forms of treatment recommended for this condition; but to give a general, brief account of the whole subject, and to enlarge, perhaps, upon some points possessing special interest and importance.

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*Read before the Toronto Medical Society.

I think that you will allow me the statement that no disability, certainly no surgical disability, is more frequently met with; that it is a condition to which we, as practitioners, give too little attention in its early stages, when it is frequently amenable to the milder forms of treatment, until pathological changes have taken place, rendering the individual's life miserable, and all but useless, by reason of pain and weakness. The causes of this condition are so intimately associated with its treatment that I feel justified in enumerating them here. It may be said to result from undue pressure within the veins, or from impaired resistance of their walls. The former condition will be met with in (1) cardiac disease, especially those forms affecting the right chambers; (2) obliteration of a large vein; (3) hepatic disease; (4) pregnancy and amenorrhœa; (5) local pressure by fæcal accumulations or tumors; (6) pressure of a long column of blood, as in the case of the internal saphenous, which is placed too superficially to receive any muscular or fascial support; (7) occupations like those of carrying-porters and truck-drivers, which involve constant and severe strain upon the crural muscles, with the sudden driving of a large amount of blood from the muscular and intra-muscular veins into the superficial ones; (8) walking heavily upon the heel. Here we have the centrifugal impetus acquired by the blood during the early portion of the step, when the heel is brought abruptly to the ground, thrown upon the valves—if present—and from them upon the vein walls. This force is very considerable, especially in the saphenous; and frequently repeated, in the presence of any lack in tone of the vessel walls, is very apt to be followed by dilatation. Any cause, then, which throws upon the muscular wall of the vein an unnatural strain for an unnatural time leads to hypertrophy, or if the nutrition be at fault to thinning at some points, and hypertrophy at others.

The second condition, that of impaired resistance of the vein walls, is met with in enfeebled constitutions, often apparently hereditary, and seen in a large proportion of the cases applying for treatment, and less frequently in the degeneracy of tissue incident to advancing age.

Dr. W. H. Bennett, in his admirable monograph upon this subject, says: "Personally, the more I see of this affection, the more I incline to the belief that a large proportion of these varicosities originate in defects in the venous apparatus, which, in some patients, are distinctly hereditary."

Symptoms. Varicose, permanently dilated veins, of moderate size, commonly give rise to but little discomfort, provided the nutrition be good and the circulation active; but, in the presence of age, ill health, or even fatigue, the great weight of this high column of blood, unbroken by valves, brings about serious changes, chronic congestion, with consequent thickening and hypertrophy of the connective tissue; pigmentation, from escape of red corpuscles from the veins, and failure of nutrition of the tissues generally; in which condition abrasions and wounds heal slowly; ulcers form, which persistently resist ordinary treatment, unless absolute rest be enjoined; and, finally, the skin becomes eczematous and boggy, not, it is true, the direct result of the varicose veins, but of the impaired circulation which they have brought about.

Treatment. When the dilatation is traceable to a pathological change in any of the viscera, the offending organ should, if possible, be set right, with the hope that the vein may recover itself. Constipation should be corrected, a torpid or congested liver should be relieved, a flabby or dilated heart should be toned up, and peritoneal dropsy may require the use of diuretics, purgatives, or the trocar. In the presence of pregnancy an abdominal belt should be worn, and the day broken by a noonday sleep. Suppressed or deficient menstruation will call for special treatment. In those early cases where pain is severe, with or without œdema, rest in the recumbent position, with perhaps elevation of the limb, is a source of great comfort. This, in some cases, may be repeated for, say, half an hour three or four times during the day.

The form of treatment adopted in a severe case will depend upon the object in view. If this be the relief of symptoms, then palliative measures will be adopted; on the other hand, if permanent relief be sought for, one or other of the radical cures will be done.

Bandages. For the purpose of general support to a varicose limb, nothing surpasses a cotton net or flannel bandage cut upon the bias. An elastic stocking is the most deceiving of all deceivers. These two pieces of flannel, each one yard long, were cut from the same web, yet when placed upon the stretch one becomes eight inches longer than the other. This represents the difference in elasticity between that cut upon the straight and that cut upon the bias. In using a bandage of any kind, it should not be applied too tightly at first; it may require readjusting several times during the day, and should always exert most pressure upon the foot and ankle. The difficulty of adapting a bandage or stocking that can be worn with comfort and satisfaction is much greater when the vessel is situated above the knee than when it is situated below that joint; but fortunately cases of this kind, if not occurring in persons of too advanced an age, may usually be absolutely relieved by one of several operations to be referred to.

Stockings. Another, and a serviceable support for those who are of the working class, and who prefer to wear a support rather than submit to operative treatment, is a stocking made of stout linen, laced down the front; the two edges are provided with eyelets, and one edge with a loose flap which, passing behind the lacing, protects the skin from what might be a source of considerable irritation. If the varicosity extend above the knee, a small piece of the linen is cut out of that portion of the stocking which would correspond to the anterior portion of that joint. The thigh piece of this stocking may take its support from an abdominal belt or a waist worn for the purpose. The front should be closed with three or four different pairs of laces, so that the pressure at any given point may be altered without interfering with the remainder of the stocking.

A thigh support of real value is made of stout merino, in the form of tightly-fitting drawers, attached above to an abdominal belt.

Strapping. Where varicosity is confined to a small portion of a single vein, or to a circumscribed bunch, strips of plaster applied across the vein, or at right angles to the greater diameter of the bunch, removed at night and reapplied each morning, prevent distention and relieve pain.

Exercise. In the absence of eczema, ulcers, extreme dilatation with threatened rupture, moderate exercise, if varied in character, is helpful. To vary the exercise, I should alternate walking with riding, walking upon the level with walking up and down hill.

Massage. Upward massage to practise each night upon retiring is to be encouraged and persisted in. Many cases exhibiting œdema are much relieved by it, as are those in which pain is so severe as to preclude even moderate exercise.

Where extreme tenderness or a recent thrombes exist, it is needless to say that massage is contraindicated.

The radical treatment aims at the obliteration, or removal, of the altered vein or veins. For this purpose caustics, injections, the ligature, and, lastly, extirpation or excision, have been resorted to.

Before the days of Listerism, Vienna paste was applied over the dilated vein at points three or four inches distant, and at the end of fifteen minutes washed off with vinegar. In this way it was sought to render the opposite sides of the vein adherent and secure obliteration.

The injection of minim doses of pure carbolic acid into the vein, its upper end having been secured by a moderately tight bandage, and of solutions of iron or of alcohol and ergot, alongside the vein have had their advocates.

The treatment by ligature has been one of the most popular. It is usually employed in one of three ways. By some it is introduced through an open wound, carried round the vessel by means of an aneurism needle, tied, the ends cut short and dropped, a single stitch closing the opening. The operation becomes more secure if the vein be tied at two points in each incision and divided between. In bad cases upwards of thirty such incisions have been called for in a single leg. Others, again, in using the ligature, pass a flat needle beneath the vein while it is pinched up between the finger and thumb, then twist a figure-of-eight stitch over the ends of the needle, protecting the skin beneath by means of a little absorbent cotton or surgeon's lint. The needles should not remain in position longer than one week, and if inflammation result they are withdrawn earlier. Failure is not infrequent, and there is always the danger of transfixing a vein.

The third method of applying the ligatures is credited to Dr. Charles Phelps, of New York. The ligature material used is catgut. The needle commonly used, the Keyes straight varicocele needle, is so constructed that the eye, situated near the puncturing end, is opened and closed by means of a slide. The catgut should be small enough to allow the knot to pass through the opening in the skin made by the needle, although there is no objection to leaving the knot outside.

The ligatures are introduced as follows: The selected vein with its surrounding skin is picked up between the thumb and forefinger, and the needle (armed with a ligature) introduced through the skin on one side. The eye of the needle is then opened and the ligature detached; the eye is closed again and the needle withdrawn. We have now a ligature passing from the point of entrance to the point of exit under the vein. The needle is now reintroduced (unarmed) into the same opening produced by the former puncture, and made to pass above the vein, that is, between the vein and integument, making exit at the point of exit produced by the first puncture. The eye is now opened, the ligature introduced into it, the eye closed, the needle withdrawn. We now have the ligature around the vein, and both ends making exit from the same opening. All that remains to be done is to tie with a friction knot—one made by passing the end twice round the loop instead of once, and not liable to slip.

Trendelenburg, of Bonn, has recently urged ligature of the trunk of the saphenous vein for the purpose of reducing varices of the leg, and healing varicose ulcers; but past experiences have made us skeptical of the permanent value of limited excision and partial operations generally.

Excision Bennett, speaking of excision, says: "All the ends obtainable by the two previous operations (the application at one or more points of a single ligature, and the division of a vein or veins between two ligatures) are better and more completely effected by this proceeding, which is, of course, also especially adapted for the complete cure of local varix of any kind, single or multiple cysts, solid tumors, the results of ancient strombi, phleboliths, etc. At the Congress of German Surgeons in 1884, Schede, in discussing Bœnnicken's paper upon this subject, strongly favored this operation; in 1886 Konig reported that he had given up ligature and limited excision, as better results were obtained by more extensive operation; and since these dates the operation has continued to increase in popularity, both in England and America. I, therefore, make no apology in urging excision as the best treatment in well-selected cases calling for so-called radical treatment.

The operation. The day before the operation the patient, placed in a sunlit room, is asked to stand upon a chair or table, and the saphenous vein, with all its enlarged branches, is traced throughout its entire course with a camel-hair brush, moistened with a 20-gr. solution of nitrate of silver in spts. eth. nit. A few minutes' exposure to the sun will so fix it that any washing that is done preparatory to the operation will not render it much less distinct. Only those who have removed large pieces of dilated vein will appreciate the amount of comfort and the saving of time which comes through the adoption of this simple precaution. The vessel may in this way be exposed throughout its entire course in less than five minutes with a degree of accuracy and ease not possible in any other way.

That the strictest precautions as to surgical cleanliness must be observed goes without saying.

The limb is cleansed with ether and soap, and for some time before the operation packed in a wet carbolic dressing. The patient being etherized, the limb is rendered bloodless, and a tourniquet applied above the upper limit of the incision; the limb is again washed, a short incision is made some little distance above the length to be removed, and the vein divided here between two ligatures. In this way I have protected the proximal end of the vein against any possible infection which might find its way into the larger wound. So far, this precaution has never been necessary, none of the cases having been infected. A rapid incision is now carried over the entire length of the vein to be excised and down to it.

The skin flaps being well turned back to enable one to follow the altered branches through the fascia and into the muscle, if needs be, are fastened with a few stitches, and the piece of vein to be removed is divided at its upper end. The dissection proper is then commenced, and this is the tedious part of the operation. The major portion of the work may be done with the back of the knife, or a fine periosteal elevator, the branches encountered traced out beyond all appearance of disease, and tied off with strings or catgut (preferably that boiled in alcohol under pressure). Unless considerable care be exercised many of the smaller branches will be torn, and some troublesome bleeding may result. That I might feel satisfied that my catgut was absolutely safe, I had Tiemanns make me this metallic box with screw cap. The catgut is placed in the box, covered with absolute alcohol, and boiled for half an hour on each of three successive days ; the method is safe, and after sterilization in this way we need have no misgivings as to the cleanliness, at all events, of his gut. The dissection having been completed and the vein removed, the tourniquet is slightly and cautiously relaxed and the bleeding points secured. This is best done by tortion with fine pressure forceps which include little more than the vessel in their bite, and are therefore less likely to produce destruction of the already somewhat devitalized tissue than one of a coarser pattern. After flushing out the wound with sterilized water, I have usually dropped into it a few drops of pure chloroform for the purpose of sterilizing, but mainly to control any general oozing, for chloroform applied in this way has a decidedly styptic action.

Before withdrawing the tourniquet, I have put in a number of deep sutures, which pass under the wound and do not appear in it. These are not tied until the wound is being closed, but would effectively control hemorrhage from any branches which might have escaped the catgut ligature, and, drawn moderately tight, give the wound good support while healing. The superficial sutures are of stearin, sterilized silk, interrupted, and placed at the greatest distance compatible with perfect coaptation. The wound having been covered with a moist boracic-acid dressing, protected by gutta-percha tissue, is placed upon a pillow, the sutures removed upon the seventh day, and the patient kept in bed for two weeks longer, and compelled to wear a flannel bandage for at least six months, to be removed upon the slightest indication of varicosity in any of the remaining vessels.

ASCITES IN CONNECTION WITH GYNECOLOGY.*

An abstract of Prof. Gusserow's article in *Arch. fur. Gynæcologie.*

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In the *Arch. für. Gynæcologie* for 1892, Professor A. Gusserow, of Berlin, has an interesting article on "Ascites in connection with Gynecology," of which the following is an abstract.

A high grade of ascites has often been observed occurring in connection with the affections of the genital apparatus or of the peritoneum, which seem to occur by preference in women. In these cases, at first, even the skilled diagnostician cannot say anything more than that he has a general ascites (non-encapsulated). There is a lack of the symptoms which occur in ordinary ascites; there is no ascites in other parts; for instance, of the legs, the abdominal wall, or of the outer genitals. A patient often comes to us like a skeleton, with the exception of a very prominent abdomen, which makes us think at once of an abdominal tumor, in the modern sense of the words; *i.e.*, a new growth. A special characteristic of this kind of case is the absence of all the ordinary factors, one or more of which are so often found to have given rise to ascites. So then, in the first place, a careful examination must be made for disease of (1) the circulatory apparatus; (2) the liver; (3) the kidneys; and only those cases of ascites in which such etiological factors can be positively excluded come, properly speaking, into the domain of gynecology; and it is only these, and none others, that Gusserow is discussing. Most gynecologists are now agreed upon the best method of handling such cases. Unfortunately, the ordinary practitioner is too apt to follow the older method, a circumstance which sometimes proves very unfortunate for the patient. He still clings to the idea that an attempt should be made to ascertain the cause of the ascites by means of a puncture: or, what is worse, he is apt to make the treatment consist in further punctures, and to continue these until the death of the patient. Puncture is, in my opinion, in every way inadvisable. It is true that we, in common with other gynecologists, for many years taught that puncture was always necessary for the diagnosis for an abdominal tumor. This idea they have now given up, and we consider it quite as absurd to make a puncture for diagnosis in the cases of general or "free" ascites. This new doctrine I have taught for many years, and the same holds good for tapping to take away the greater part of the fluid. It used to be the custom to make a puncture with a Pravaz syringe, and draw off a little fluid, have it examined chemically and microscopically, in order to make a diagnosis of the kind of ascites and of its probable origin. Although much work has been done on the subject, there are many cases, and especially nearly all of these cases of "general ascites" which we are discussing now, where such an examination will give us no information at all. Better than this is tapping for the removal of the greater part of the fluid, since we thus get a better chance for palpation of the abdominal and pelvic organs, and may possibly be able to detect the cause which was concealed by the amount of the fluid. This "chance" of making a diagnosis frequently led to the adoption of this treatment, which, as we said, was often not the best for the patient. The reasons against this method are (1) the uncertainty of being able to make a diagnosis, even when the fluid is drawn off; (2) the faint chance, even with the best asepsis at our command, of setting up a septic process. (This latter danger has now, it is true, been reduced to a minimum, but we have nevertheless seen cases of erysipelas and of septic peritonitis from tapping.) (3) The liability of injuring vessels, and of consequent internal bleeding; (4) the impossibility of drawing off all the fluid by tapping, and the almost certain return of the fluid, which perhaps will necessitate tapping again and again.

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*Read before the Gynecological and Obstetrical Society of Baltimore, Md.

I have given up both the puncture and tapping, and prefer to make an incision about 6 cm. long, then empty the abdomen of the fluid, and, inserting the finger, find out what is the local cause. One is then at once able to decide for or against an immediate or a future operation. If a radical operation is not to be done, we have at any rate drawn off all the fluid. The cases are divided into groups. To the first group belong the cases of "general" ascites as a consequence of so-called "tuberculous" peritonitis. This form appears mostly in young people. No lesion in the heart, kidneys, or liver is demonstrable, and no signs of tuberculosis are anywhere found. On laparotomy one finds numerous nodules of a gray-reddish color, both on the visceral and parietal surface of the peritoneum. Some of these cases, as it seems to us, are not cases of tuberculous peritonitis in the modern acceptation of the term. We would prefer to call them cases of "peritonitis nodosa." The first case given was observed by me twenty years ago, before the tubercle bacillus was discovered. The patient was quite young, twenty years of age; no signs of phthisis. There was a high grade of ascites. Patient had been tapped several times. Laparotomy performed, the fluid evacuated, and the before-mentioned nodules were found. Seeing the nodules, I made a diagnosis of tuberculosis and gave a bad prognosis; and the patient—got well. In the second case laparotomy was performed, the fluid was evacuated, and one of the nodules cut out. The central portion of the nodules was caseous, but no giant cells were found. (Tubercle bacilli had not been discovered, and were not looked for.) The patient recovered. The third case, which was operated upon in 1892, was somewhat similar. The microscopical examination showed small celled proliferation, with a rich blood supply No giant cells, no tubercle bacilli. In any of these three cases tapping would have been of no avail, for it would not have been possible to make a diagnosis by palpation except by exclusion after the fluid was drawn off, and the diagnosis could only be established by opening the abdomen and cutting out one of the nodules for examination.

The second group consists of cases where the ascites was due to papilloma of the ovaries.

Papilloma of the ovary, or superficial papilloma of the ovary, consists of an abundant growth of connective tissue villi, which comes from the surface of the ovary, while the ovarian stroma itself is either found to be thickened or is nearly normal. These cases are not always distinguished from those rare cases in which a papilloma has burst, and a part of it has grown free in the abdominal cavity. The characteristics of superficial papilloma of the ovary are (1) both ovaries are generally involved; (2) they cause a high grade of ascites, which is liable to return again after tapping; (3) they are generally too small to be palpated, even after tapping. The first observation of this kind was published by myself and Eberth in *Virchow's Archiv.*, No. 43, 1868. Patient, 34 years of age, had a high grade of ascites for a year and a quarter. Had been tapped several times in Billroth's clinic, among others. No reason for ascites discovered. Umbilical hernia developed and burst, and the patient increased the opening herself and let off the fluid. Finally, the hernia became very large. A convolution of intestine had come out through the hernia, and when the patient was seen most of the small intestine lay outside the abdomen and showed signs of discoloration. Operation for hernia. Rupture of gangrenous portion of intestine. Death. *Post mortem* showed papilloma of the ovary. (He also adds other cases.) These cases of rare diseases of the ovary ought to convince us that where we have ascites from some unknown cause in the abdomen, we ought not to limit ourselves to puncture; in fact, we ought not to puncture at all. In none of them was it possible to diagnosticate the nature of the cause till the abdomen had been opened. In one of them where puncture had been made before, and bloody, serous fluid evacuated, we might have been led to think of carcinoma of the peritoneum, and been unwilling to operate. This admixture of blood, as a matter of fact, was a result of the puncture. In two of these cases death unfortunately followed the operation, but this must be attributed to the exhaustion of the patient by the frequent tappings. In another case death was caused by septic peritonitis. Otherwise we would feel sure that the patient would have been cured, since we have no instance of recurrent papilloma of the ovary where it has once been thoroughly excised.

To the third group belong those far more common cases of ascites due to carcinoma of the ovaries and the peritoneum. Here, it might be asked, "Is not incision unnecessary? Here we can feel even a nodular tumor after puncture. Is it not sufficient to puncture in order to make the diagnosis?" However, again, we should employ incision. First, because we can never be otherwise sure that the growth is cancerous. Secondly, because only by this means can we decide whether (if there is carcinoma) the ovary or uterus ought to be removed, as it is the rule to extirpate cancerous ovaries unless the peritoneum is involved; and every carcinoma must be removed if it is in healthy tissue. If there is carcinoma of the ovaries, then by incision we can tell whether or not the peritoneum is affected, and that can only be discovered by laparotomy. It will be objected that in malignant disease laparotomy has sometimes hastened death. This by no means always occurs, and against it we can put, first, the certainity of diagnosis; secondly, if the tumor is benign, a timely operation and recovery ; and to these we may add that, where the tumor is malignant, a laparotomy sometimes hinders its progress, and even without further operation life is prolonged.

These cases fall naturally into three subdivisions: First, those in which the malignant growth could be removed (with ovaries). It must be remembered that we are not talking now of operations for malignant growths in the abdomen in general, but only of those in which general ascites was the characteristic symptom. Out of three cases two recovered completely; the third died later of multiple sarcomata. In the second subdivision come those cases in which the malignant growths could not be entirely removed. The first case has the following history : M.G., aged 20, admitted Aug. 18, 1891 ; primipara. Three months before entrance she had a great deal of pain in the abdomen, which obliged her to stay in bed. Was in bed four weeks. Before entrance she noticed a swelling, with no pain, but shortness of breath. The abdomen measured 110 cm. ; general ascites. No tumor felt by palpation or vaginal examination. Laparotomy, Aug. 18 ; four to six litres of ascitic fluid removed. Tumor size of first, on right side of uterus, in layers of broad ligament. Mass adherent. Removed with difficulty, because the tumor was a friable, medullary material. A great deal of hemorrhage followed. Left ovary healthy. Diagnosis, spindle and round cell sarcoma. Patient recovered from the operation, but died of peritonitis without ascites, and of marasmus, after seven months. Autopsy, general sarcoma of peritoneum, omentum, retro-peritoneal lymph glands, retro-sternal glands. The next case, one of carcinoma not connected with the genital apparatus, but adherent to the intestines. Removed. Patient left hospital completely well. She was lost sight of. Of the five cases in this category, in all of which a portion of the growth was left in the abdomen, three died, not in consequence of the operation, but on account of the rapid development of the malignant growths. Two got well (one a woman of 75). What became of these cases ultimately is not known; anyway, their lives were prolonged by laparotomy.

To the last subdivision belong those cases of ascites where no attempt was made to remove the tumor, but where the abdominal section was made for the sole purpose of evacuating the fluid; of five cases, two died and three got better for the time being. These cases show that for drawing off the fluid laparotomy is often better than puncture. The fluid can be so much better removed in this way, a diagnosis can be made, and we know with absolute certainty whether an operation is indicated or not.

Lastly, we must mention cases of general ascites caused by benign disease of the genital apparatus. The first case was a woman, aged 57, nine children ; came into the clinic August 4th, 1890. Menopause one year ago; since that time had remarked a swelling in the abdomen, which caused her no particular inconvenience; for the last three weeks rapid increase in swelling, causing a feeling of tension, pain in abdomen and back, with pain on micturition, and prolapsus vaginæ. (Abdomen 103 cm., from ascites.) No tumor felt in abdomen; nothing discovered in the other organs. Laparotomy, Aug. 6th, 1890. Color of fluid yellow; hard tumor fastened to the left corner of uterus, easily separated from it. Right kidney a little out of place. The uterus was attached to abdominal wound. Tumor proved to be fibroma *ovarii sinistri*. Recovery. Vagina replaced. Even operation did not show the reason for so much ascites.

By tapping, of course, we could not have discovered the real nature of the tumor causing the disease. We might, indeed, have felt the tumor, but could not have told about its malignant or non-malignant character. In another case belonging to this category, we could not have had any idea of the nature of the disease by tapping. By laparotomy we were able to see plain indications for removal of the tumor, and were consequently able to cure the patient.

Professor Gusserow, in this article, expresses, we think, the views of most of those of us who have had much experience in abdominal surgery. With our present technique, even were the advantages to be gained by such a procedure far less than they really are, we need not hesitate to open the abdomen instead of making a puncture. When the general practitioner meets with a case of ascites where all implication of the circulatory apparatus, the liver, and kidney have once for all been definitely excluded, it would certainly be well for him to call in the specialist before adopting the "puncture" method. Our experience bears out the futility of attempting to arrive at a certain diagnosis in every case by examination (chemical and microscopical) of the fluid which has been aspirated; the only certain way is to use the hand or eye, or, if possible, both. Again, we have seen more than one case which has come to autopsy where the patient had died after numerous aspirations, and where the condition of things had led us to believe that a timely operation might have at least much prolonged the patient's life, even if the disease could not have been thoroughly eradicated. In these cases it seemed that valuable opportunities had been lost; and since an abdominal section not only gives the patient the best chance for complete recovery, but when employed as a palliative measure is more efficient than frequent tappings, it is in almost every case the better method. With respect to the "Peritonitis Nodosa," of which Gusserow speaks, it does not seem clear to us that these were not instances of peritoneal tuberculosis; and if this were the case, the success which attended the operations, and which we have seen confirmed in our work, would only go still further in proving his proposition.

Finally, in these days when in both medicine and surgery we are all striving as much as possible to avoid working in the dark, and we wish to treat our patients for the disease they really have and not for a hundred and one others which they might possibly be suffering from, the advantages of an absolute diagnosis can hardly be overrated.

Selected Articles.

THE TONIC TREATMENT OF INDIGESTION.

CLINICAL LECTURE DELIVERED AT THE POLYCLINIC HOSPITAL

By Thomas J. Mays, M.D.,

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IT is well known that indigestion is one of the most prominent characteristics of the many morbid conditions which are met in daily life. Not only is the inability to eat one of the first symptoms which mark the beginning of disease, but it is frequently conspicuous throughout its course; hence, on account of the importance and the widespread nature of this disorder, I have been led to consider its treatment this evening with drugs which are principally of vegetable origin, and which exert a tonic or stimulant influence.

Any therapeutic agent which has the power of invigorating the bodily functions may be called a tonic. Common custom has, however, limited this title to that class of drugs which facilitate the processes of digestion and absorption in the alimentary canal. The list of drugs which possess this action is large, and comprises the bitters, aromatics, some alkaloids, and some inorganic substances.

Practical experience has taught us that the administration of these agents is followed by increased appetite. There is much reason to believe that in accomplishing this they act in a mechanical way; *i.e.*, by coming in contact with the nerves and muscles of the mucous coat of the stomach and intestines they excite into renewed activity the normal movements and secretions of these organs. This view of their action is well borne out by the observations which have been made on the stomachs of persons or of animals in whom existed gastric fistulæ. It has been observed that when the stomach contains no food and is at rest, its mucous membrane is pale; but when slightly stimulated, as by rubbing it with a feather or some other soft object, it becomes redder and the gastric juice is secreted in copious quantities. More intense irritation checks the secretion of gastric juice, the membrane becomes pale, and nausea and vomiting may supervene. These drugs, then, in ordinary doses, possess the requisite power to call forth a normal secretion of the digestive juices, while at the same time we know that they also influence the nerves and muscles which supply the digestive organs, and hence increase the movements of the latter.

By bearing in mind the fact that slight irritation of the gastric mucous membrane produces an abundance of gastric secretion, and that a stronger irritation will stop this flow, we have a probable explanation as to why some of our most noted authorities on therapeutics (Buchheim and others) are led to believe that our much-vaunted tonics not only fail to improve digestion, but really interfere with it. It is very plain from what has been said that large doses of these agents act like strong irritants when applied to the gastric walls, and, indeed, we have this confirmed in the clinical experience that in large quantities they produce nausea and vomiting. The authorities who do not believe in the tonic action of these substances also hold that because they counteract fermentative changes they also necessarily interfere with gastric and intestinal digestion. That the bitter substances possess this anti-zymotic power is well proven ; but when we remember that they are administered in small doses, well diluted, this influence can hardly manifest itself. It is true that in the case of quinine, except when given in very small doses, this anti-ferment power must always be borne in mind, and should forbid the giving of this alkaloid too close to a meal.

Besides the power of increasing gastric and intestinal digestion and motion, these agents possess another very important property, and that is a stimulation of absorption of the digestive products by the blood vessels. Little was indeed known of the intricate workings of absorption until recently, beyond the fact that in a general way the food products were believed to be absorbed by the blood vessels and by the lacteals of the stomach and of the intestines. That the albuminous food is changed into peptone has been demonstrated clearly enough, but how the latter gains entrance into the blood has been enveloped in a great deal of mystery. That peptone does not enter the blood in a free state is plain from the fact that it is not found as such in this fluid, and that when it is introduced into the circulation artificially it acts as a poison, and is at once excreted by the kidneys. The case is different, however, when peptone is absorbed from the alimentary tract ; for Professor Hofmeister has shown (*Archie für Experimentelle Pathologié u. Pharmacologie*, Band xix., s. 1), from a very elaborate series of experiments, that in the adenoid tissue or lymphatic glands of the mucous membrane of the alimentary canal there is an active proliferation of white blood cells (leucocytes) during digestion ; that these cells imbibe and incorporate peptone; and that in this way most of the latter is taken up and distributed by the circulation throughout the body. In contradistinction to the office of the red blood corpuscles, which is to absorb and transport oxygen, he demonstrates that that of the white blood corpuscles is to imbibe and appropriate peptone. In the light of Professor Hofmeister's researches, it also becomes clear why an increased multiplication of white blood cells takes place during digestion, a fact which had been observed by Moleshoot nearly forty years ago. Whether the tissues take up the nutritive material from the white blood cells as peptone, or whether peptone is changed into some other form of albumen before it reaches its destination, is a question with which we do not need to concern ourselves at present.

That which is of the greatest interest to us is to know what influence the bitter tonics and aromatics have on the process of gastric and intestinal absorption. This influence has been studied by Dr. Pohl (see *Archie für Experimentelle Pathologie u. Pharmacologie*, Band xxv., s. 31), an assistant of Professor Hofmeister, who counted the number of white blood corpuscles in the blood of dogs before and after foods and certain drugs had been administered. He found an increase in their white blood cells averaging more than one hundred per cent. when albuminous food had been ingested. When carbohydrates, fats, salts, water, and other non-albuminous foods were given, no increase in the number of white blood cells was observed.

After he had firmly established the fact that the number of white blood cells was augmented by albuminous food, he pushed the investigation further and tested a large number of medicinal substances in relation to the same process, among which were inorganic salts, volatile medicaments belonging to the fatty and aromatic series, bitters, and alkaloids. He introduced these substances into the stomachs of dogs who had been hungering for twenty-four and forty-eight hours, and enumerated the white blood cells before and after they were given. His interesting results show that hydrochloric acid, sodium bicarbonate, sodium sulphate, magnesium sulphate, sodium arseniate, lead acetate, copper sulphate, calomel, alcohol, caffeine, and quinine were inert in this respect; but that bismuth subnitrate, iron chloride, acetic ether, mustard, pepper, strychnine, vanillin, the oils of fennel, cloves, peppermint, aniseed, cinnamon, turpentine, tincture of myrrh, musk, camphor, wormwood, quassin, gentian, and centaury showed a remarkable power to increase the number of white blood cells. Among the most active of these agents were strychnine, centaury, fennel oil, gentian, quassin, mustard, aniseed, clove oil, myrrh, and turpentine—ranking in the order in which they are named.

In order to impress on you the importance and scientific value of this investigation, I shall reproduce a few of his recorded experiments; and by so doing I shall also be enabled to demonstrate to you the comparative worth of some of the different substances in their influence on white blood-cell formation.

Beef.		Beef.	
Time.	Number of White Blood Cells in Cubic Millimetre.	Time.	Number of White Blood Cells in Cubic Millimetre.
9.00	8,689	9.45	5,929
	100 g. beef.		100 g. beef.
10.00	16,685	10.45	14,598
11.00	17,296	3.00	14,332
5.00	7,256	6.00	10,337
Max Increase	99 per cent.	Max. Increase	146 per cent.

Ethyl Alcohol.		Ethyl Alcohol.	
Time.	Number of White Blood Corpuscles in Cubic Millimetre.	Time.	Number of White Blood Corpuscles in Cubic Millimetre.
9.00	12,041	10.00	14,314
9.25	12.5 ccm. alcohol.	10.35	12 ccm. alcohol.
10.10	16,244	11.05	11,536
11.00	13,783	11.35	14,313
11.25	14,988	12.35	13,234
4.00	13,575	4.00	100 g. beef.
4.05	100 g. beef.	5.00	30,500
5.05	22,000	6.00	27,974
	Slightly increased by alcohol. Markedly increased by beef.		Decreased by alcohol. Markedly increased by beef.

Fennel Oil.		Strychnine.	
Time.	Number of White Blood Corpuscles in Cubic Millimetre.	Time.	Number of White Blood Corpuscles in Cubic Millimetre.
9.55	12.950	9.45	11,226
10.05	2 ccm. fennel oil.	10.05	12,079
10.25	22,392	10.10	0.0005 g. strychnine.
11.05	28,172	11.10	23,628
11.45	Salivation; vomits.		
12.05	22,682	12.10	18,289
5.05	18,635		
Max. Increase	117 per cent.	Max. Increase	101 per cent.

The first two of the given experiments demonstrate that beef food has a remarkable power to increase the number of white blood corpuscles, and the next two show that ethyl alcohol rather diminishes, but that the subsequent administration of beef food to the same animals increases the number of white blood cells; while the last two prove that fennel oil and strychnine possess a most extraordinary influence over the process of white blood corpuscle production. In a general way it may be said, therefore, that here we have a large group of therapeutic agents with which we are able to modify and enhance the functions of digestion and absorption of the alimentary canal, as well as to influence favorably the blood-building process. It is also true that many of these agents have peculiar qualifications which are suited to individual cases and conditions, to a consideration of which we shall now apply ourselves.

SIMPLE BITTER TONICS.

Quassia is one of the best known tonics. It exerts a narcotic influence on insects, and in large doses, especially in the case of children and delicate adults, it may give rise to nausea, vomiting, dizziness, deafness, and involuntary muscular movements. Like calumba, it is devoid of tannic acid, and may be given with iron, which increases its utility. It greatly enhances the formation of white blood cells in the walls of the alimentary canal. It may be given in the form of tincture or infusion. The following formula will be found useful when indigestion is associated with a sluggish action of the liver and bowels and an eczematous or acneous eruption of the skin:

℞. Magnesii sulph., ℥i;
Ferri sulph. gr., xxv;
Sodii phosph., ʒi:
Acidi phosph. (dil.),
Acidi sulph. aromat., āā fʒi;
Infus. quassiæ, q. s. f℥iv.—M.
Sig.—One tablespoonful in a glass of cold water before breakfast.

Gentian root is a powerful tonic, imparts force to the circulation, and elevates the warmth of the body. When combined with geranium maculatum, it is useful in checking diarrhœa, hæmoptysis, and hemorrhage from other mucous surfaces. It is very beneficial in gouty dyspepsia, and the infusion, in combination with either sodium or potassium bicarbonate, is most useful in relieving the nausea and vomiting of pregnancy.

Colombo root, although not used as much as quassia or gentian, is certainly the equal of either in many respects. It greatly promotes the development of the white blood cells in the walls of the digestive tract. It is devoid of irritating properties, and may, therefore, be administered in cases where the gastric and intestinal mucous surfaces are unusually sensitive, as in pulmonary phthisis, diarrhœa, cholera morbus, etc.

Boneset is a stimulant and tonic in small doses, but becomes a diaphoretic and emetic in large doses. Its effects are analogous to those of chamomile. Some hold that it stimulates the functions of the sympathetic nervous system. Being of an intensely bitter character, though not included in the list of drugs the leucocytogenesis of which he tested, it is quite probable that Dr. Pohl's experiments point out the reason why this drug has maintained itself so well among our useful and popular tonics. Although inferior to quinine in many respects, it is a much-lauded domestic remedy in fever and ague. The hot infusion is useful in breaking up acute cold and catarrh of the chest.

Horehound is a very useful stimulant tonic when dyspepsia is associated with bronchitis, hoarseness, cough, and other pulmonary affections. It is also diuretic, and has been found efficacious in relieving mercurial salivation. It is given in the form of infusion or syrup.

Virginia snakeroot, in small doses, promotes the appetite, and stimulates the heart and the whole arterial system. In the form of infusion, it is a most valuable remedy in the convalescence from exhausting fevers, like those of typhoid and malaria.

Wormwood is a tonic which contains an oil and a bitter principle called absinthin. It has a powerful action on the nervous system, and, according to Dr. Pohl, it increases the formation of white blood cells. In addition to its tonic property, it is an anthelmintic and a diuretic. It is one of the ingredients in *aromatic wine*, an officinal preparation, in which form it is best given.

Prickly ash, on coming in contact with the mucous surface of the mouth, causes a feeling of warmth and bitterness, which is rapidly diffused throughout the mouth and lingers for a long time in the fauces. When taken internally in ordinary doses, it engenders a profuse flow of saliva, excites a sensation of heat in the stomach and intestines, accelerates the action of the heart, infuses energy into the capillaries, raises the blood pressure, and produces exhilaration of the whole body. In the dyspepsia of asthenia, it performs excellent service. It is of much use in the flatulency, colicky pains, and diarrhœa of nervous patients. Its action simulates that of strychnine very much, and is therefore applicable in most forms of indigestion which are associated with nervousness. It may be used in the form of a decoction, or in that of the fluid extract, the dose of which is from ten to thirty minims.

Golden seal is very bitter, and produces an excessive mucous discharge from the mouth and nose when taken in large doses. Dr. Rutherford has proved it to be a moderately powerful hepatic stimulant, and also a feeble laxative. My own experimental and clinical researches with hydrastine, its alkaloid, show that when locally applied to the skin or mucous surfaces it is analgesic, and when injected hypodermically it slows the human pulse by from eight to twelve beats per minute. Experiments on animals demonstrate that it contracts the blood vessels and raises arterial pressure. It is one of the most favored tonics with eclectic practitioners. It seems to be best adapted to that form of dyspepsia which is associated with hepatic torpor. It is quite probable that hydrastine represents the action of the whole plant. In drunkard's anorexia and vomiting, the administration of one grain of hydrastine and half a grain of oleoresin of pepper every three hours is followed by excellent results. The dose of the fluid extract is from three to thirty drops, and of hydrastine hydrochlorate from one-half to two grains.

Nux vomica is an intensely bitter substance, and when small quantities of it are added to water containing low organisms it increases their activity, but large doses lessen this. It also diminishes the oxidation of protoplasm and that taking place in the blood (Brunton). Small doses enhance the irritability of the spinal cord and of other reflex nerve centres. Large doses produce convulsions. In small doses, from one-eighth to one-half a grain of the extract, it increases the appetite, and by its power to enhance peristaltic action of the intestines it counteracts constipation. It is, therefore, one of our best tonics, and, according to Dr. Pohl's observations, it ranks very high as a leucocytogenetic agent. Twenty drops of the tincture of nux vomica and thirty drops of the tincture of capsicum in water form a most useful combination to check the vomiting, diarrhœa, and general irritability which are often present on the borderland of *delirium tremens*. Large doses of strychnine, I have been taught from experience, are decidedly indicated in the treatment of *alcoholic phthisis*. The following combination will be found efficacious here:

℞. Phenacetini, gr. xl;
Quininæ sulph., gr. xx;
Strychninæ sulph., gr. i;
Atropinæ sulph., gr. $\frac{1}{25}$;
Pulv. capsici, gr. x.—M.
Ft. capsulas no. xx. Sig.—One capsule four times a day.

In the course of a few weeks the dose of strychnine can be increased with benefit to one-twelfth or one-tenth of a grain every four hours.

Cayenne pepper, when applied to the skin, produces warmth and redness, and when chewed excites an intense burning in the mouth and throat. In large doses it causes nausea, vomiting, diarrhœa, and intestinal colic, and deranges the functions of the nervous system. In small doses it cleans the dry, coated tongue, infuses fresh life into the perverted action of the gastric nerves, stimulates the secretion of the digestive fluids, and promotes intestinal function in chronic alcoholism. It promotes the growth of white blood cells in the walls of the intestines. It may be given in the form of the powder, of the tincture, or of its oleoresin.

Mustard, like pepper, is a favorite condiment, and, according to Dr. Pohl, it possesses the useful property of stimulating the process of leucocytogenesis, and this may be the great secret of its staying qualities as a domestic appetizer and tonic.

Common centaury has the reputation of being one of our best bitter tonics, and this may be accounted for by its remarkable influence on the building up of white blood cells. There is no officinal preparation of this plant, but it may be given in infusion.

SEDATIVE TONICS.

Wild cherry bark, owing to its peculiar combination of a bitter element with amygdalin, acts like quassia and hydrocyanic acid. It is very useful in dyspepsia, and in conditions of general feebleness following fevers and other exhausting diseases, in which an erethistic state of the gastric nerves exists at the same time. In pulmonary consumption it quiets the cough, allays irritability, and improves the appetite.

Hops are both tonic and hypnotic, produce sleep and sometimes relieve pain, and are very useful in chronic dyspepsia when this is associated with restlessness and irritability. A hop pillow very frequently overcomes sleeplessness. Beer, porter, and ale are tonics and hypnotics, and if used in moderation are capable of producing good.

AROMATIC TONICS.

This group of agents is generally employed for the purpose of giving pungency to, and disguising the taste of, bitter and disagreeable medicines, and of removing flatulence by stimulating intestinal contraction. The experiments of Dr. Pohl, however, show that, besides these properties, they exert a most influence over the processes of digestion and of absorption, and that they are to be reckoned among the most important of the tonic class. The best of the aromatic tonics are common fennel, anise, cloves, peppermint, cardamon, allspice, ginger, canella, cinnamon, wintergreen, lavender, vanilla, nutmeg, cajuput, and acetic ether.

MISCELLANEOUS TONICS.

Among the tonics which do not come under any of the previous classes are the following :

Turpentine oil, in small doses, produces a copious flow of saliva and a warmth in the stomach. It is useful in gastric and intestinal catarrh, and in the flatulence and diarrhœa of typhoid fever. Dr Pohl's experiments show that it has a direct influence on the lymphatic tissue of the alimentary canal, and to this selective action is probably due its great usefulness in the treatment of typhoid fever.

Myrrh promotes the growth of white blood cells in the walls of the digestive tract, accelerates the pulse, and is a useful agent in chronic catarrh of the mucous surfaces. It is an important ingredient in Warburg's tincture.

Musk is a promoter of white blood-cell generation and a valuable stimulant of the nervous system. It is employed in the collapse of typhoid fever, and in hysteria and other nerve disorders.

Bismuth subnitrate has a very soothing effect on irritable mucous surfaces, and for this reason is largely employed in dyspepsia, gastritis, ulcer of the stomach, diarrhœa, dysentery, etc. Its beneficial action is supposed to be largely owing to its mechanical intervention—*i.e.*, by forming a protecting layer over the affected surfaces. But this important drug also possesses the power of hastening leucocytogenesis, and hence it directly aids absorption and assimilation.

Iron. According to the investigations of Dr. Pohl, at least two preparations of iron—the chloride and the dialyzed oxide—must be regarded as stimulants to digestion, inasmuch as they accelerate the building up of white blood cells in the walls of the intestines. It is currently believed that iron, even in small doses, is an irritant to the stomach and to the bowels, that it interferes with digestion, and that hence it is not to be given in digestive disorders, or in any disease which is accompanied with a coated tongue. This cautiousness is of rather doubtful utility, so far as the two above-named chalybeate preparations are concerned. Practically, the injunction is also freely disregarded, for many practitioners have seen a coated tongue and a deranged digestion disappear under the use of the tincture of iron.

In estimating the therapeutic value of tonics, we must bear in mind, then, that, in addition to their influence on the secretion, innervation, and contraction of the alimentary canal, they have another and very important function, viz., that of enhancing the formation of white blood cells in the mucous membrane of the same structure. What, then, is a true interpretation of this action? Is it that these agents, besides their other functions, are genuine blood-builders? The lymph glands of Peyer, with which the intestinal wall is studded, in common with the spleen and the other lymphatic glands throughout the body, are actively engaged in transforming and organizing nutritive material into leucocytes, or white blood cells. As has already been stated, the latter are always increased in number after the ingestion of food. During fasting there may be one white to one thousand red corpuscles, while after a meal the proportion may rise to one in three hundred. Such an increase of white blood corpuscles has been observed in the mesenteric circulation by Dr. Pohl, not only after food was given, but also after the administration of many of the therapeutic agents which we have considered this evening. The importance of this influence will be fully realized when we consider that recent advances in physiology make it exceedingly probable that a large number of red blood corpuscles are nothing else than transmuted white blood cells—the change consisting principally in transforming the protoplasm of the latter into hæmoglobin and stroma (Foster).

Unlike food, then, these agents do not yield any material wherewith the leucocytes are constructed, but they contribute the requisite force or stimulus to incite the lymph glands of the alimentary mucous membrane to manufacture and transform the reserve nutritive material into animated blood cells. It is manifest, therefore, how tonics, when given before or during a meal, enhance the absorption of digestion products, for the leucocytes carry the peptone from the intestinal wall into the blood current, and assist in creating a desire for more food; and this, too, is one of the best reasons why we regard our tonics as the most serviceable class of agents in the materia medica.—*From International Clinics, Vol. II., 2nd series.*

THE TREATMENT OF ACUTE CATARRHAL INFLAMMATION OF THE MIDDLE EAR.

By James T. Campbell, M.D. Tor., M.R.C.S. Eng.,
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IN a recent article it is reported that of 10,000 deaf-mutes in institutions in the United States and Canada fifty per cent. of these are afflicted through having suffered from acute inflammation of the middle ear in infancy; scarlet fever of itself being credited with about 30 per cent. of these cases; while an untold multitude go through life with hearing to a greater or less extent impaired from damage done to the membrana tympani and ossicles. From this showing it appears to me that there must be something radically wrong in the treatment generally adopted.

As to prophylactic measures the nasal douche should never be employed, because of the great danger of forcing fluids up through a patent Eustachian tube and its gaining admission to the tympanic cavity.

In all cases of inflammation of the tonsils or inflammation in the naso-pharynx, local antiseptic treatment should be adopted. Where there is interference with the free opening and drainage of the Eustachian tube during the act of swallowing, as a result of hypertrophy of the adenoid tissue in the naso-pharnyx, or a polypoid degeneration of the posterior portion of one of the turbinated bodies, one should at once remove the obstructing mass.

When, however, inflammation of the middle ear has developed, local treatment must be employed. Instil into the external ear five to ten drops of a warmed 5 per cent. solution cocaine with a 2 per cent. solution of resorcin, tilting the head in such a position that the drops will become applied to the whole surface of the membrana tympani. Leave these drops in for ten to fifteen minutes, and then remove with a pledget of cotton-wool. Repeat this every three to four hours so long as pain in the ear continues. Place a large gauze compress, which has been wrung out of a hot boracic acid solution, over the ear and cover the whole with oiled silk, so as to retain the heat and moisture, changing this sufficiently often to keep the gauze constantly hot.

Inflate the middle ear with Politzer's rubber bag, using air which has been filtered by placing a small pad of antiseptic cotton-wool over the tip of the bulb during inspiration, force out the air and repeat this process once of twice before using. Now place the patient's head in such a position that the Eustachian tube of the affected side is directed downward and forward during inflation; in this way not infrequently the exudation into the middle ear, particularly when it is serious in character, trickles down the patent tube. Repeat this inflation several times during the course of the day.

Should the physician not possess a Politzer bag, he may in an imperfect way try to accomplish the same result by taking a piece of rubber tubing, put one end within the child's nostril and hold it in place by pinching the tip of the nostril between the index finger and the thumb, and then blowing very forcibly through the other end when the child swallows. With a child old enough to do as directed, the proper time to compress the air bulb in inflating the ear is just as the soft palate is raised during the act of swallowing a sip of water, or when having him say the word "huck." In an adult the most thorough plan is by using the Eustachian catheter in conjunction with the air bulb.

General derivative measures should be adopted by the use of saline cathartics, diuretics, diaphoretics, and cardiac sedatives, while, in addition, it is well to place, in the case of a child, one, and in adults three, leeches in front of the tragus for fifteen minutes to produce rapid depletion; being careful, however, to have a pledget of cotton-wool in the external meatus to prevent the entrance of leeches into the external ear.

These measures proving unavailing, as evidenced by pain increasing in severity, the membrana tympani being much reddened and swollen, with bulging and a yellowish coloration of the posterior segment, one must perform myringotomy.

The incision is made in the postero-inferior segment, from near the tip of malleus downwards. Then take Politzer's rubber bag, and, by way of the Eustachian tube, force the exudate in the middle ear out through the opening in the membrana tympani. Carefully syringe out the external ear with a saturated boracic acid solution, and, after drying out the ear, blow in some very finely powdered boracic acid, and place in the external meatus a plug of antiseptic cotton-wool. Continue the inflation twice daily, and see that the incision in the membrana tympani keeps open so long as any exudate continues to collect in the middle ear and can be forced out with the rubber bulb.

By carefully carrying out the above-described measures we shall have a much smaller percentage of deaf-mutes in our midst, and have fewer sufferers from perforated membranæ tympani and chronic suppuration of the middle ear, with all its attendant evils.—*Annals of Ophthal. and Otology.*

(*TRANSLATION.*)

THE MODERN TREATMENT OF TUBERCULOSIS OF THE JOINTS.

KÖNIG (*Archiv. fur Klin. Chirur.*, 44 B. and 3 Heft., p. 592) classes the means employed under three heads:

(1) Local radical treatment by operation.

(2) Local treatment by means of subcutaneous medicated injections.

(3) Treatment of the joints by mechanical means.

Early resection he regards entirely with disfavor. A considerable number will recover spontaneously; the necessity is urged of a return to the old methods of immobilization by means of gypsum, fixation, continued extension and compression. The faulty positions assumed in hip disease through contracture are at once corrected by continuous extension. Afterward he applies fixation by means of gypsum, which remains in place six or eight weeks; at the end of that time the patient returns; and if any new contracture has arisen it is remedied, and a new plaster dressing is applied. This treatment is continued until all traces of tenderness on pressure, on striking the heel, and upon movement, have disappeared. The length of time required varies from six months to two years.

In cases which do not recover by these means, injections of iodoform are used. Without doubt, a considerable number of tuberculous joints recover by this treatment; but there are some that resist, and others, who must make a living by their work, who cannot continue treatment for so long a time. Here resection becomes a necessity.

Of 410 cases presenting at the Göttingen clinic of tuberculous coxalgia, about half were treated conservatively—150 by extension and plaster, and

50 by the opening of abscess and injection of iodoform in glycerine. In 210 cases resection was made, with a mortality 19 per 100.

The following are the results of 100 resections of the knee in persons from 20 to 66 years: 6 succumbed to the operation; 5 died in the following month, 4 of septicæmia or erysipelas, and 2 of tuberculosis; 64 recovered completely; 16 still had fistula; 8 had amputation performed.

Of 70 of the cases traced in 1888, 43 were still in good health; 20 were dead, mostly of tuberculosis; 6 still had fistula.

In resection complete extirpation of the capsule is recommended, but he warns against going too far in this matter. König is not in favor of resection of the cotyloid cavity, as recommended by Bardenheuer and H. Schnied, in coxalgia, as it is not so much at this point as at the lesser trochanter that difficulty is experienced in getting completely rid of the tuberculous products.

Another operation to be recommended is that for the complete removal of intra-osseous tuberculous foci. Unfortunately, the indication for it is rarely discovered; one is called too late; tubercle has already invaded the joint. The extirpation of the bone disease should then be associated with distention of the joint by iodine in glycerine. Extirpation of the capsule with simple cleansing of the foci, and without osseous resection, should be performed only in children; in adults it is generally not sufficient.

He concludes that up to the present it is not possible for us to obtain a perfect cure, in the true sense of the word. We may look for only a local radical cure, whether by operation or therapeutics. This is a result, however, not to be underestimated by the means at our disposal to render tuberculosis latent, or to restore a member to its functions.

Senn ("Tuberculosis of Bones and Joints") records the following illustration of the efficiency of iodoform treatment in grave cases of tubercular abscess. The patient was a delicate girl of eight, who had suffered from a tubercular spondylitis at the junction of the last dorsal with the first lumbar vertebra for six months. Slight angular posterior curvature. Within two months an enormous abscess developed in the right lumbar and iliac regions. Below, the abscess extended to Poupart's ligament; above, to the last rib. The abscess was very prominent in the lumbar and inguinal regions. The child had a temperature of 104° F. every evening. The abscess was punctured, under strict antiseptic precautions, in the lumbar region and nearly two quarts of tubercular pus evacuated. The abscess cavity was irrigated with a 3 per cent. boric acid solution until the fluid returned perfectly clear, and two ounces of a 10 per cent. mixture of iodoform in glycerine injected. The puncture was sealed with a pledget of antiseptic cotton and iodoform collodion. The first injection had no effect in reducing the temperature; at the end of a week it was repeated, and about half as much tubercular pus removed. The temperature in a few days after the first injection was normal. The third and last injection was made four weeks after the first. At this time only about six ounces of a viscid fluid were removed. The child improved in general health, and after this time no reaccumulation of fluid occurred. At the present time, six months after treatment was commenced, the child is wearing a plaster of Paris corset, and appears to be in perfect health.—*B. E. McK.*

(*TRANSLATION.*)

ISCHIO-PUBIC DISLOCATION—IRREDUCIBLE—OF FOUR MONTHS' STANDING—RESECTION OF THE FEMORAL HEAD AND REPLACEMENT OF THE NECK IN THE COTYLOID CAVITY.

Abstract of paper by Tellaux, Paris, in *Revue D'Orthopédie*, January, 1893.

ON February 10th, 1892, a man of 53 years fell on the street and was run over by a passing carriage, the wheel passing from the outside over his right thigh, producing but a very slight abrasion. At once the femur assumed the position in which M. Tellaux found it. No attempt at reduction was made. At the end of eight weeks, discouraged by seeing no increase of the movement, the patient sought advice and came under the care of M. Tellaux. June 8th, 1892, lying on bed and limb in repose there was flexion to 30° with the axis of the body, considerable abduction, the knee lying upon the bed, and rotation outward so pronounced that the external surface of the femur lay on the plane of the bed. The femoral axis, prolonged upward, would cross the median line of the body midway between the umbilicus and the pubes. When the superior anterior iliac spines were brought to the same level, there was found 20 centims. of shortening in the right extremity. In repose there was tilting of the pelvis so that the right iliac spine was 8 centims. lower than its fellow.

On palpation the head of femur was found displaced very much inward, under the insertion of the adductors, and distant from the median line only a finger's breadth. On raising the scrotum, the head was felt in the perineum. It had preserved its roundness, and was found to move slightly as the femur was moved. This position of the head caused the appearance of much swelling in the upper part of the thigh, and an increase in its transverse diameter. The great trochanter was buried in a mass of muscles about the cotyloid cavity. The vessels were not moved from their position, being 9 or 10 centims. distant from the head of the femur.

Standing up, rotation appears less marked because of some compensatory rotation of the tibia on the femur; flexion is less noticeable; the abduction remains considerable and is the most marked sign, the malleoli being 25 centims. distant from each other. Through much tilting of the pelvis and curving of the lumbar spine, the feet are placed on the ground at the same time. The movements, passive and active, are very limited and painful. He walks with difficulty, aided by a cane; he moves the affected limb slowly forward, and brings the other forward more briskly; he cannot, without risk of falling, place his weight on the affected limb. Atrophy of the right thigh, 2 centims., at a distance of 10 centims. above the patella.

Operation June 9th. After two fruitless attempts at reduction by means of the pulleys a cutting operation was performed by M. Tellaux, assisted by M. Walter, and in the presence of MM. Ollier and C. Nélaton. The incision began at the genito-crural fold, and extended 10 centims. downward behind and parallel with the tendon of the adductor magnus, cutting thus directly downward upon the femoral head. Attempts at liberation proved unavailing, the head being imprisoned and held immovable by the surrounding tissues. Resection of the head was made with chisel and mallet. The neck was now easily placed in normal relationship with the cotyloid cavity, which was so little altered as to require no interference.

Extension and traction were continued up till August, and during this month the patient lay on a bed and was permitted to move the limb. In September he got up and walked, at first with crutches, and afterward with canes. Left the hospital at the end of September. At that time no deformity apparent; necessary to observe closely in order to notice the flattening over the trochanteric region.

The limbs were parallel, no difference in length, movements good, rotation normal, flexion to a right angle, abduction and adduction as on the sound side, movements executed voluntarily and with energy, walks easily with a cane, but can do without it. When walking, there is nothing to show that an operation had been performed.—*B. E. McK.*

Clinical Notes.

PRESSURE TREATMENT OF ANEURISM.

By Harold C. Parsons, M.D.,
House Surgeon, Toronto General Hospital.

THOUGH aneurism is a tolerably frequent condition, it is seldom that one has the opportunity of watching such cases under pressure treatment, and it is for this reason that I report the following case as being of, perhaps, especial interest.

The patient, a man of 60 years, was admitted to the Toronto General Hospital, under Dr. L. McFarlane, on November 24th last. The history of the case is as follows: Early history unimportant; habits good; his occupation did not demand any great exertion. Ten years ago patient suffered from an acute attack of rheumatism; recovery apparently complete. About two years ago patient noticed in the right popliteal space a mass about the size of a hazel nut, freely movable, and, according to him, non-pulsatile and non-expansile. This caused no inconvenience.

In July, 1892, there was a recurrence of the rheumatism, which chiefly affected the right knee-joint; whereupon the mass previously mentioned rapidly enlarged, this being attended by considerable pain. On entrance to hospital condition was as follows:

Posterior to right knee-joint there was situated a large mass, pulsatile and expansile. The popliteal space was obliterated, and the mass extended laterally. Internally, it formed a decided enlargement in the natural contour of that part, and passed forward so as to reach the level of the anterior surface of the thigh. About six inches above the flexure of the joint the enlargement gradually tapered off into the normal shape of the thigh; below, it ceased more abruptly, just below the bend of the knee. Externally, the enlargement was quite noticeable, but by no means as pronounced as internally, nor did it extend so high. The circumference at that part was 2½ inches in excess of that of the healthy limb. The tension within the tumor was great, and on controlling circulation through the femoral artery by pressure in Scarpa's triangle that tension and pulsation ceased, and the mass was rapidly reduced in size, both conditions disappearing as soon as the pressure was withdrawn. A brûit was heard over the seat of Hunter's canal, and a distinct thrill felt over the same area.

The subjective symptoms amounted only to a dull aching, both in the tumor and in the calf, which was increased when in a dependent position. The vessels generally were decidedly cordy.

Without entering into any further details regarding the nature of the trouble, we shall endeavor to follow out the progress of the treatment.

By reason of the degeneration in the vessels, it was thought inadvisable to adopt any line of treatment that would too suddenly pour the circulation into a collateral system. Hence it was decided to apply the pressure treatment. Digital pressure was performed, but to supplement this an instrument was employed by which a weight of 2½ lbs. was brought to bear upon the vessel, its point being guarded by an air-cushion, this being held in position by the hand. The treatment was commenced on Saturday, November 26th, at 5.30 p.m., and for the first twelve hours only partial occlusion of the vessel was aimed at, after which a complete arrest of circulation.

After eighteen hours' treatment there was a distinct change in the aneurism. At the lower and inner part it was noticed to have become quite firm, and on removal of pressure the pulsation was *nil*, though in other parts it was as formerly. A gradual extension of this firmness was appreciable from below upwards, and by Monday morning—*i.e.*, after about forty hours' treatment—the whole aneurismal sac was firm, and on removal of pressure above pulsation was absent, except in one line running from upper and lower part of sac to upper and lower corner of the patella. On the supposition that there still existed a channel through the sac, treatment was continued until that evening at 9.30, when finding no improvement from the condition of that morning, and as the patient was showing signs of fatigue, treatment was discontinued.

Thus the treatment was applied, in all, for fifty-two hours; but very possibly forty hours would have been sufficient. The channel which was so misleading appears to have been a collateral branch, as it persisted and was quite as perceptible when I examined the patient a week later as it had been at the end of the forty hours.

The patient bore the treatment well for the first twenty-four hours or so, but later showed plainly the degree of strain upon him. During the last eighteen hours delirium set in, and pulse became small and rapid, the repeated administration of morphia failing to procure rest.

After four days' perfect quiet, patient was able to be up and about, the tumor was much reduced in size, and pain was absent.

It was by the help of a number of the students of Dr. McFarlane's clinical class, who kindly volunteered their services, that the above line of treatment was rendered possible. They came on in pairs for three-hour watches, relieving one another about every fifteen or twenty minutes. The pressure was both digital and instrumental, but I think the former was preferred by the majority as the easier of application, for by it one could more readily judge as to the degree of control upon the circulation in the vessel; also, it is not such an arduous task as would appear at first sight. The instrument, referred to previously, invented and constructed by Dr. Charles O'Reilly, was a piece of lead pipe eight inches long, with a calibre of one and a half inches. One end was furnished with a rubber tip having an air-cushion surmounting it. The lumen of the pipe was filled with shot, and at its other end there was a handle by which a cord could be attached for the purpose of suspension. When first applied, it was suspended by a cord passing through a pulley just above the pressure point; this then led over the head of bed and was supplied with a counterpoise, by which means the instrument was kept in a perpendicular position. In this case, however, all this gearing was dispensed with; for it was found quite difficult enough to compress the vessel without having to raise the counterpoise in addition.

A few days ago I received a note from the patient stating that, as far as his aneurism is concerned, he is perfectly well, and has been so since his discharge from the hospital. During the past winter there has been a slight recurrence of rheumatism, chiefly affecting the right knee-joint, which has left it somewhat painful. The mass in the popliteal space has diminished markedly in size, and what remains is quite soft and free from pain or inconvenience of any kind. Perhaps this may have been a particularly favorable case to work on; but, be that as it may, I think we may justly place this in the list of successes in the pressure treatment of aneurism.

ARTIFICIAL RESPIRATION IN ASPHYXIA NEONATARUM.

By A. T. Rice, M.D., Woodstock.

IN the last issue (March 11th) of the *Medical Record*, Dr. Harvie Dew, of New York, discusses the various methods of accomplishing the above result, and puts it very plainly as to his own methods; but while I do not wish to discuss or criticize his paper, I wish to call attention to a case of my own that failed to yield to his method.

A few weeks ago I was called at 10 a.m. to attend Mrs. M., in her first confinement. The labor proceeded satisfactorily until 1 p.m., when I deemed it advisable to relieve her with the instruments, which I did, using the short forceps.

The child was delivered at 1.10 p.m., and as I found it necessary to resuscitate it I proceeded to do so; but, as the sequel showed, found it a somewhat difficult matter.

I first used the ordinary methods employed in simple cases, and as it did not succeed I adopted the method advocated by Dr. Dew, but without success, and almost despaired; but finding the cord pulsating and the heart beating about forty, I tied the cord and again resorted to Dr. Dew's plan, without success.

I might here state that the method mentioned consists of grasping the child across the shoulders with the left hand, allowing the neck to rest between the thumb and forefinger, the head falling far back serving to throw open the epiglottis and inducing an inspiration. This is followed by the reverse movement to compress the chest and expel the air.

I then placed the child upon the bed, and placing my mouth over that of the child I gradually inflated the lungs, and produced expulsion by pressure upon the chest walls.

After two or three such movements the pulse bounded up to 100, and a distinct flush overspread the body.

This was certainly encouraging, and I kept this up for fully half an hour, when at 2.15 the child gave the first inspiration, followed in about half a minute by a second. I still supplemented its own efforts until finally respiration was regularly established.

To me this showed the importance of persevering with these cases, even when failure seems to be evident, as I have no doubt many a child is laid aside as "stillborn" where life might have been saved to gladden the hearts of anxious and expectant parents.

RELATIVE DANGERS OF CHLOROFORM AND ETHER.

Abstract of paper by MR. ARTHUR WILLIAMS in *Birmingham Medical Review*, with annotations by JAMES F. W. ROSS, M.D.

DISCUSSIONS on the relative dangers of chloroform and ether are always interesting to the profession.

The *Birmingham Medical Review* has considered the paper of Mr. Arthur Williams, published in the *Medical Chronicle*, on the relative safety of ether and chloroform, of so much interest that it has published it almost in its entirety. The report is founded on the records of St. Bartholomew's Hospital, where, for many years, the number of administrations and the anæsthetic used have been accurately noted. This is dated back to the year 1875, and continue up to the year 1890.

CHLOROFORM. The years 1875-76-77 average about seven hundred administrations per annum, with no deaths; in 1878, one death; in 1879 nearly one thousand administrations, with one death; in 1881 over one thousand, with one death; in 1882-3, two deaths in each year, with an average of about fourteen hundred administrations yearly; in 1884 5 no deaths, and an average of about thirteen hundred administrations yearly; in 1886-87-88, one death each year, with an average of about sixteen hundred administrations yearly; in 1889, two deaths in sixteen hundred and one administrations; in 1890, one death, with eighteen hundred and sixty administrations. The total this made was thirteen deaths out of nineteen thousand five hundred and twenty-six administrations, or one in fifteen hundred and two.

ETHER. Only four deaths occurred, with the administration of ether, out of twenty-one thousand three hundred and thirty-two administrations, or one in five thousand three hundred and thirty-three. But twelve thousand nine hundred and forty-one of these cases had gas given previous to the administration of the ether, and in this number only one death occurred; thus leaving the deaths from ether alone as three out of eight thousand and ninety-one cases, or one death in two thousand seven hundred and ninety-seven. Two deaths occurred in 1878, one in 1880, one in 1882, and one in 1890. From this comparison, it would certainly seem to follow that ether is a very much safer anæsthetic than chloroform. (Of course the fact that has been stated by many that chloroform produced immediate death on the table, and that ether produces it at a remoter period, must not be lost sight of in comparing the mortality of the two drugs. There is no doubt that cases die from a bronchial irritative catarrh subsequent to the administration of ether, and that such deaths are not included in the lists kept by any hospital.) It is interesting to have grouped on one page a number of deaths from chloroform. We, therefore, extract these bodily:

CHLOROFORM.

SEX.	AGE.	DISEASE.	FORM OF DEATH.	POST-MORTEM.	STAGE OF OPERAT'N.
Male.....	52 yrs.	Cellulitis of leg.	Syncope.	Fatty degeneration of the heart.	Operation was concluded.
Male.....	26 "	Pyonephrosis.	Syncope.	None.	Operation not begun.
Male.....	56 "	Epithelioma.	Apnœa or asphyxia.	Right lung fixed to chest wall, heart normal.	Operation not completed.
Male.....	53 "	Reopening wound.	Weak and irregular pulse.	Heart hypertrophied and dilated, mitral valve diseased.	Before operation.
Male.....	52 "	Epithelioma.	Pulse imperceptible, breathing ceased.		Before operation.
Male.....	30 "	Setting of fracture.	Asphyxia.		
Male.....	11 "		Syncope.		
Male.....	$1\frac{1}{2}$ "	Diseased ankle in splint.		Heart hypertrophied and dilated.	Operation begun.
Child.....	8 mos.	Harelip.	Syncope, respiration continued after pulse stopped.	Hypertrophy of heart, dilated left ventricle.	Operation not begun.
Female...	72 yrs.	Eyeball enucleation.	Syncope.	Heart large and fatty.	
Female...	50 "	Opening abscess.	Syncope, feeble circulation.		Operation not begun.
Not given.			Syncope.		

It is impossible for clinicians to abandon the evidence of their senses in this matter at the dictum of the Hyderabad Commission.

Fatalities occur most frequently before the commencement of the operation, and while anæsthesia is uncompleted. This was the case in six out of ten cases. In two cases the accident occurred while the operation was in progress, and in two cases just after its completion.

Eleven out of twelve deaths were caused by syncope. On *post-mortem* examination in six of the above fatal cases, the heart was found to be extensively diseased in all but one; in two it was in an advanced state of fatty degeneration, and in three it was markedly hypertrophied and dilated. It may, therefore, be concluded that disease of the heart adds greatly to the risks of chloroformisation.

ETHER.

SEX.	AGE.	DISEASE.	FORM OF DEATH.	POST-MORTEM.	STAGE OF OPERAT'N.
Male.....	56 yrs.	Fractured leg, drunkard.	Syncope.	Lungs engorged, heart flabby.	Operation completed.
Male.....	61 "	Strangulated hernia.	Pulse imperceptible, respiration ceased.	Heart slightly fatty, cavity empty, lungs emphysematous, and engorged behind.	
Male.....	47 "	Intestinal obstruction collapsed.	Pulse became elevated and died.	None.	Ten minutes after administration
Female...	21 "			Plural effusion, heart displaced to left, ureters dilated and suppurating.	Before operation.

Thus in all these deaths under ether the patients were the subjects of exceedingly grave disease which had dangerously depressed the heart's action.

After a large experience in the administration of ether alone, of chloroform alone, of ether and chloroform combined, of alcohol, chloroform, and ether, I have been forced to the conclusion that the administration of alcohol with the chloroform and ether is unnecessary; that the administration of the mixture of chloroform and ether with any inhaler with a bag attachment requires more experience for its safe administration than ether or chloroform require when given separately; that many cases in which the administration of chloroform is commenced ether will have to be substituted, and the indication for this substitution can only be obtained from the pulse; that the pulse should always be watched as well as the respiration, and I have been warned over and over again by my anæsthetist that ether must be substituted for chloroform from the information he has obtained from the pulse, and in this way, I believe, fatalities have been averted; when the pulse becomes exceedingly rapid and feeble, or when it becomes extremely slow, the danger limit is approached, and the administration of chloroform should be discontinued. I have had more difficulty with patients to whom the anæsthetic has been given by practitioners imbued with the idea that nothing but the respiration requires watching, the outcome of what they have read in the reports of chloroform commissions, than I have had with any other cases.

Progress of Medicine.

MEDICINE

IN CHARGE OF

W. P. CAVEN, M.B. Tor.,

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PERIOD OF INFECTION IN MUMPS.

The question as to the transmission of the infectious diseases and the exact stage of the disease at which infection is most likely to occur has been satisfactorily settled regarding most of the exanthemata. In mumps, however, the case is different, some authorities maintaining that the disease may prove infectious throughout the whole of its course, whilst others are of opinion that this is only the case at the commencement of the attack. Dr. Rendu, in a paper read before the Société Médicale des Hopitaux, related two cases which are valuable as throwing light upon this point. A young lady visited her mother on Jan. 2nd, who complained of slight malaise; on the following day, however, she developed mumps. On Jan. 24th her daughter, who had seen her on the 2nd, but not since, was likewise attacked. In the interval she had seen no person who was suffering from the disease. Dr. Rendu argues, therefore, that a case may be infectious even before the characteristic paratoid swelling has made its appearance. A second case was very similar to this one. A child ten years old was attacked after being in company with a friend who, although then showing no signs of the disease, was found a few hours afterwards to be suffering from it. Mumps is, therefore, evidently infectious at the termination of the period of incubation. Dr. Rendu is of opinion that infection is conveyed by means of the breath.—*London Lancet.*

HERNIA OF THE LUNG.

Dr. Eugenio Sanchez Agramonte writes to the *Revista de Ciencias Médicas* of Havana that, having read an annotation in *The Lancet* of Dec. 3rd, 1892, referring to the rarity of cases of pulmonary hernia, and giving an account of one which was successfully treated by excision and reduction of the stump by Dr. Massari, he feels bound to record a somewhat similar case occurring in his own practice. The patient was a young man twenty-seven years of age, who had received a wound from a penknife between the ninth and tenth ribs in the axillary line on the left side. When he was seen eleven hours afterwards the lung was found to be protruding from the wound, the extruded portion being dry, like parchment, of a violet color, and about ten centimetres in breadth. There was no hemorrhage. The wound was only about two centimetres in length. Thinking that the return of such a mass in the condition in which it was might be dangerous Dr. Agramonte determined to excise it. The pedicle was secured by means of stout catgut in a figure of 8. After excision the stump was cauterized with a concentrated solution of carbolic acid. It was then returned into the pleural cavity, the wound washed with a boracic lotion, the lips brought together with carbolized silk, and a dressing of boracic cotton-wool applied. The operation was not followed by fever or dyspnœa, and the wound healed by the third day. A little friction sound could be heard over the cicatrix, and there was a circumscribed area around it where there was dullness on percussion. As in Dr. Massart's case, there was no collapse of lung and no pneumothorax, and the interference with the pleura did not occasion any pleurisy.

BORATE OF SODA IN PARALYSIS AGITANS.

Borate of soda, which has been found useful by various authorities in epilepsy, has been tried with remarkable success by Dr. Sacaze, *chef de clinique* in Professor Grasset's wards in Montpellier, in a case of paralysis agitans where the actual cautery, electricity, suspension, iodides, and various other forms of treatment, had proved fruitless. The drug was given at first in four-grain powders three times a day, and after a few days the dose was gradually increased to about double that quantity. An improvement was manifested by the end of the week, and after that the patient's condition continued to improve still further. After a time he was able to walk, to speak distinctly, to feed himself, and to write, none of which things he could accomplish before the borate of soda was commenced. No disagreeable effects were produced by the drug.—*London Lancet.*

Chloride of Zinc in Pulmonary Tuberculosis.

Dr. Jules Comby publishes in *L'Union Médicale*, No. 1, 1893, the results of injections of chloride of zinc in cases of pulmonary tuberculosis. All the cases were early ones, the disease being confined to the apices. The strength of solution employed varied from 1 in 50 to 1 in 20. No bad local effects were produced, nor were any unpleasant constitutional symptoms noted. Three drops were introduced by the means of a hypodermic syringe, and the dose was repeated every third or fourth day until four to six injections had been given. The results, Dr. Comby considered, were favorable in the three cases in which he tried the treatment, and he maintains that it merits further trial. He was able to demonstrate that a solution of chloride of zinc in the strength above stated could be injected into the lungs, two or three drops at a time, without any danger, and the injections might be repeated without further risk. His object is to produce a cure in the same manner as occurs in the natural arrest of the disease, namely, by development of the fibrous tissue. By his experiment on tubercular joints he claims that chloride of zinc tends to promote the formation of fibrous tissue, and thus to bring about the desired result.—*London Lancet.*

OBSTETRICS

IN CHARGE OF

ADAM H. WRIGHT, B.A., M.D. Tor.,

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The Management of the Placenta in Delivery.

Beaucamp, of Aix-la-Chapelle (*Archiv f. Gynak*), publishes statistics of 500 labors conducted after Ahlfeld's principle of leaving the placenta two hours' time to come away. He found that the average of flooding was high. In 163 cases where flooding occurred, the placenta was discharged spontaneously 89 times before the two hours had elapsed; in 67 cases it had to be expressed. Beaucamp concludes that expression of the placenta should be performed within half an hour, as that practice involves less risk of hemorrhage, nor does Ahlfeld's practice lessen the risks of retention of membranes. This occurred in 102 out of the 500 cases. A very important piece of advice is added to these statistics. Beaucamp urges, contrary to Ahlfeld's opinion, that the midwife must stay with the patient yet two hours more after the delivery of the placenta; for in his 500 cases flooding came on in twelve cases within the first two hours after the placenta had been expelled. Hence, if the midwife be ordered to wait two hours for the placenta, it is a grave mistake not to instruct her to stay yet two hours longer after it is born.—*British Medical Journal.*

TO PREVENT LACERATIONS OF THE PERINEUM BY THE SHOULDER.

So much has been said regarding ruptured perineum that I feel reluctant about bringing the subject forward again ; but, in the matter of prevention, I feel sure that not enough has been said in regard to tearing by the shoulder. After great care has been taken, and every precaution exercised to prevent laceration by the head, and one is congratulating himself upon having managed matters so that the patient has escaped with perhaps nothing but a little nick in the fourchette, a final terrific pain drives the lower shoulder straight through the perineal body, and perhaps makes a rupture clear through into the rectum. An internal parting of the mucous membrane of the vagina, or a slight tear, is often thus converted into an extensive laceration. The matter of preventing tears is certainly not complete without regarding the shoulder as a pretty frequent cause, and directing some attention towards preventing the continuity of the perineal body being dissolved by it. If the head has been successfully delivered, it is well to look out for the shoulder.

The indications to be met in accomplishing the safe birth of the shoulders are these :

(1) Direct the body upward into the axis of the outlet.
(2) Lessen the transverse diameter of the body of the child.
(3) Cause the exit of the body to take place slowly and gently.

When the mother is lying in the dorsal position the weight of the child's head, after it has emerged from the vagina, tends to drag the body downward and outward through the perineum, instead of outward, upward, and past it, as it should go. So the head ought to be supported, and the body directed upward in its outward passage. The transverse diameter of the body of the child may be easily lessened to a considerable extent by pressing upon the perineum and driving the upper shoulder against the pubic bone, thus doubling both shoulders over the chest.

The slow exit of the body may be brought about by pressing upon the head and retarding its motion during the pain that expels the body. But the pain that brings the body is usually a pretty violent one, and the movements of the neck prevent perfect control being obtained of the child ; and, notwithstanding all these precautionary measures, the slippery parts are likely to get from under the hand, and the damage is done in spite of all efforts. After delivering the head safely, I have been disappointed in the most aggravating way by finding that the shoulder has caused a tear, and have recently dropped into performing a manœuvre which might be called the "cork and bottle" manœuvre, as its motions are exactly like those undertaken in extracting a cork from a bottle with a corkscrew. I have found it exceedingly useful in extracting the body, after delivering the head with forceps, and in delivering the shoulders when larceration by them seems imminent, either on account of a rigid perineum, a partial parting tear of the fourchette, or the appearance of bright blood on the child's face, denoting an internal parting of the mucous membrane. It fulfils all the indications for safe delivery, and in my hands has been successful in enabling me to avoid tears by the shoulders. The manœuvre is carried out as follows: First grasp the child's head by hooking the first and second fingers around the neck, and allowing the chin to rest in the palm of the hand (the presentation being normal). Perfect control of both body and head is gained in this way, and the child's advance can be either retarded or accelerated at will. With the other hand grasp the bulging perineum and make firm pressure upward, pressing the upper shoulder against the pubic bone, and lessening the transverse diameter of the child's chest. Then delivery may be safely accomplished by pulling upward upon the head in the direction of the outlet, gently and steadily. The whole act may be accomplished in a moment, the usual interval which intervenes between delivery of the head and body allowing ample time for its performance.—*Alice MacLean Ross, M.D., of Swatow, China, in Medical News.*

PLUGGING THE UTERUS FOR POST-PARTUM HEMORRHAGE.

Lately a new treatment has come from Germany, namely, plugging the uterus with iodoform gauze. It is claimed that, by packing the uterus with gauze, the flow of blood from the vessels is mechanically hindered, and that the presence of the gauze provokes energetic uterine contraction. It will be evident also that the threads of the gauze furnish a surface well adapted to provoke clotting of the blood. Its advocates say that the bleeding is stopped by the powerful contraction of the uterus on the gauze plug, which is a continuously-acting stimulant. They say, further, that if the doctor has gauze with him he is saved the trouble of exact diagnosis of the cause of bleeding, for gauze plugging is the best way of stopping hemorrhage from laceration of the canal (except in case of tears of the vulva, which can easily be seen), and therefore in hemorrhage of uncertain origin the best plan is to plug both vagina and uterus. Dührssen[1] (to whom we are indebted for his mode of treatment) recommends prophylactic plugging instead of waiting for hemorrhage to become serious. It must be admitted that, if the uterus is to be plugged, there is no better way of doing it than with iodoform gauze.

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[1] Sammlung klin. Vort., Leipzig, No. 347.

Any treatment of post-partum hemorrhage that is largely used as a prophylactic in slight cases will show a great percentage of lives apparently saved, for cases of dangerous post-partum hemorrhage are rare. Galabin[1] found from the Guy's statistics their frequency to be 1 in 2,040. I find the proportion in the St. Thomas Charity to be 1 in 2,172.[2] Hegar gives the number in Prussia at 1 in 3,131. Hence, when we find a large number of cases reported within a short time, the presumption is that many of them were slight. We must judge the effect of treatment of post-partum hemorrhage rather by the fewness of failures than by the number of apparent successes. Fritsch[3] has published a case in which death from atonic hemorrhage took place in spite of the plugging; and others, in which the cause of death was less clear, have also been published. The introduction of the gauze has a danger of its own. Vavra[4] relates a cases in which sudden death took place from entrance of air into a uterine vein while the gauze was being put in. This treatment, therefore, is neither certain nor safe. It is, like the injection of a styptic, unphysiological, for the uterus cannot be completely contracted while the gauze is inside it. In one reported case the uterus expelled the gauze. Surely this could hardly be called uterine atony.—*Ernest Herman in British Medical Journal.*

UTERINE HEMORRHAGES.

Dr. Garrigues, of New York, says (*Post-Graduate*): "For acute hemorrhage from the uterus I have found no remedy superior to ergot, though in chronic hemorrhages the best remedy is gossypium (cotton root), made into a decoction by taking three heaping teaspoonfuls to one pint of water and boiling for fifteen minutes; when cold, one-third of this is to be taken three times a day. This remedy is very useful in uterine hemorrhage, even when due to fibroids or to cancer. If hemorrhage be present, or there is any tendency to it, in my opinion, iron only aggravates the condition. Apostoli's method of galvano-chemical cauterization is also very valuable. A very strong galvanic current is applied to the uterus with the positive pole.

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[1] Midwifery, 1st edition, p. 687.

[2] Reports, 1871-89.

[3] Duhrssen, op. cit.

[4] Cent. fur Gyn., 1890, S. 353.

GYNECOLOGY

IN CHARGE OF

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SUB-SEROUS UTERINE HÆMATOCELE.

A case of sub-serous hæmatocele in a girl eleven years old, simulating acute appendicitis. Operation. Recovery.

A child was seen by Mr. Barker with symptoms simulating those of acute appendicitis. He decided to operate, and opened the abdomen over the cæcum. He found the cæcum and vermiform appendix in a healthy condition; some brownish serum flowed from the direction of the pelvis, and, on passing his fingers down into this region, he found that the right fallopian tube and ovary were swollen and twisted, and when brought into view seemed to be quite black from blood effused under the serous coats. On tracing this effusion he found that he had to deal with a large sub-serous hæmatocele, occupying the space behind the uterus. The tumor almost filled the pelvis. He had been able to detect a swelling per rectum before the operation. The swelling was smooth on the surface and inflamed. He considered that as the case was undoubtedly one of hæmatocele, it was better not to make any attempt to remove the blood, but to allow it to remain for future absorption. The serum was sponged out and the abdomen closed. The child recovered.

Thirty-five days after, the tumor, felt per rectum, had diminished in size. The child was watched for a couple of months subsequently, and there were no returns of the symptoms. The case was recorded on account of the early age of the girl.—*Medical Press.*

DIAPHRAGMATIC HERNIA IN WHICH DEATH WAS CAUSED BY VOMITING.

Drs. Hale and Goodhart reported a case of a man, aged forty-nine' who complained of water-brash, with occasional vomiting. No organic disease could be detected. He experienced pain at the ensiform cartilage, and suffered from obstinate constipation. In spite of careful dieting, vomiting became more frequent and profuse and fœtid in character. Death occurred apparently from exhaustion. Washing out the stomach gave only temporary relief. At the *post-mortem* examination all the organs were found to be healthy, but the stomach and part of the colon were found lying in the left thorax, having passed through a smooth, large opening in the diaphragm of the size of a closed fist.

Dr. Hale mentioned another case that he saw at St. Bartholomew's Hospital. The opening in the diaphragm was the result of traumatism, and the tympanitic note that was observed gave rise to a diagnosis of pneumothorax, for which puncture was performed.—*Medical Press.*

[Many of our readers may remember the well-known case of Dane, who was shot on Bloor street by burglars, and who died from diaphragmatic hernia that occurred through the opening made by the bullet in the diaphragm a year or so before. In his case a knuckle of intestine was found protruding through the diaphragm, and he died from intestinal obstruction.—J.F.W.R.]

"THE DREAM OF THE OVARY."

The *New York Medical Record* publishes *a new work on abdominal surgery* entitled "The Dream of the Ovary."

We cannot commend it to the profession in general, nor to any particular branch of it. It is lacking in dignity; it is probably funny; fortunately, it is short. We do not consider it wise to extract it, because those who are anxious to read it can readily do so by referring to the journal in which it was originally published. Such literature can do no good, and may at any time be a source of great embarrassment to a surgical defendant in a law court. It is always difficult and impossible to strike the exact mean between two extreme procedures without finding out what the extremes are. Thank heaven, such literature will not prevent the progress of surgical science. It is simply like the fly on the window-pane, that needs only to be brushed aside, and that lives only for a short season.

GUMMA OF THE LIVER.

A case of gumma of the liver, with ascites and symptoms resembling malignant disease. Cured.

A case is reported from the clinical records of the Edinburgh Royal Infirmary, by Mr. A. Stoddart Walker, of a man aged fifty-three with the following history: Patient looked poorly developed, had pinched features, and a slightly icteric hue; had been a moderate drinker. Patient did not own to any history of syphilis. He first noticed a pain in the region of the liver three years before this; was only felt when he exerted himself, and did not incapacitate him from work. He noticed at this time blotches of the skin, itchy and red after rubbing. Aug. 1st, 1891, admitted to the Royal Infirmary on account of the ascites and dropsy of the legs; complained of a painful spot at the edge of ribs. Discharged convalescent, albuminuria, ascites, and dropsy having disappeared.

On April 4th, 1892, readmitted on account of the reappearance of the ascites. Has occasional attacks of vomiting, but complained of these long before the present illness came on. Inspection of the abdomen showed a distinct fullness. Abdominal walls tense and distended. Dilated veins seen coursing over the abdominal parietes. In the epigastric and right hypochondriac regions a large, smooth, uneven mass is to be felt. Ascites undoubtedly present. The tumor is continuous with the liver dullness, and extends about two and one-half inches below the costal margin. Heart normal ; arterial walls thickened ; both legs are much swollen. A provisional diagnosis of malignant disease of the liver was made. Patient did not improve until May 10th. The use of iodide of potassium was suggested, though from the patient's denial syphilis could not be absolutely made out. The size of the tumor rapidly lessened, and the pain and ascites gradually disappeared ; patient gained weight ; dropsy of the legs disappeared ; discharged in July looking well. The tumor at this time had almost disappeared.

An Interesting Case of Gallstones.

A very interesting case of gallstones is recorded in the *Maritime Medical News* by Dr. Morrison:

"The patient showed all signs of obstruction of the common bile duct. On account of the previous history, this obstruction was diagnosed as due to impaction of a gallstone. The stools were clay-colored, the urine was scanty and high-colored, and contained bile, and the patient became jaundiced. The jaundice continued unabated for three weeks. The hemorrhagic diathesis due to cholemia set in, and showed itself by hemorrhage from the mouth and throat. Considerable mucus was found with the fæces. This latter may perhaps have been due to the inflammation gluing the intestine to the gall-bladder or some part of the biliary apparatus. The patient evidently went as near to death's door as possible, and was probably snatched from the verge of the grave by a natural anastomosis due to ulceration of the gallstones into the intestine. The patient passed fifteen calculi in one stool, and on the following day two calculi were found. Bile immediately reappeared in the fæces, disappeared from the urine, and the patient's jaundice disappeared."

The gallstones in this case may have passed by the natural channel without ulceration ; but, if so, it would certainly be a very remarkable fact to find fifteen large gallstones in the one stool.

SURGERY

IN CHARGE OF

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THE INDICATIONS FOR THORACOCENTESIS.

Professor Potain maintains, in opposition to the teachings of Verneuil, that tapping the chest converts serous into purulent exudations. Empyema, according to Potain, is not more frequent than formerly, but is more often properly diagnosed. Four things are to be considered in thoracocentesis (*International Journal of Surgery*). First, the presence of functional disturbances. Second, the quantity of exuded fluid. Third, the duration of the exudation. Fourth, the nature of the fluid.

Functional Disturbances. Considerable dyspnœa is an indication for thoracocentesis, because it usually points to the existence of a large quantity of fluid. It may, however, be due to other causes, such as capillary bronchitis, miliary tuberculosis, etc. In such cases the performance of thoracocentesis must hinge upon the question whether the dyspnœa is due to the exudation or the accompanying complications. Dyspnœa, moreover, is an unreliable symptom; it may be completely absent, even when the quantity of fluid is excessive. The same applies to cyanosis. As regards the tendency to syncope, still less reliance can be placed upon this symptom, because it frequently appears too late to serve as a danger-signal. In general, functional disturbances are unreliable signs; but when they occur in a case where positive indications for operative interference exist, they should impel us to make haste. Finally, in exceptional cases, if a careful study of the existing conditions shows that the disturbances are actually the result of the exudation, they may serve as indications for thoracocentesis, even if for other reasons the operation had not been attempted.

Quantity of fluid. A profuse accumulation of fluid demands thoracocentesis for two reasons: first, because the danger of syncope or asphyxia in general is in direct relation to the quantity of fluid; second, because the long time required for absorption to take place increases the danger. As long as the fluid does not reach to the level of the clavicles, the quantity of exudation need not enter into the question of an operation. If, notwithstanding that the level of the fluid extends to the clavicle, there is no displacement of the diaphragm or mediastinum, no marked distention of the chest, and the lung occupies a considerable space in the thoracic cavity, the operation may be postponed. If, however, the lung is entirely compressed, especially when the thoracic cavity is distended, an immediate operation is indicated. The age of the fluid may become an indication for thoracocentesis even when the quantity of exudation in the pleura is moderate or slight. The exudation reaccumulates after evacuation, if it is recent; on the other hand, late operation is sometimes attended with serious dangers. The fluid should therefore be removed if no hope exists that it may be absorbed by medicinal treatment. Authors who have written upon this subject have designated three weeks as the limit. It is a matter of difficulty, however, to positively determine the age of an exudation, inasmuch as the development of the effusion does not always correspond with the beginning of the disease. The nature of the fluid can be determined with certainty by puncture. Without resort to this we deal only with presumptions, but these are sufficient to indicate a puncture, which, according to the case, may be simply exploratory, or at the same time serve to evacuate the fluid. After thoracocentesis has been decided upon, it must be determined to what extent the contents of the pleura are to be evacuated. In the majority of cases the complete emptying of the pleural cavity is attended with many grave dangers. On the other hand, the evacuation of a small amount of fluid may be useless if a large exudation be present. As a rule, about one-half of the fluid should be removed.—*Medical Record.*

Regarding Antiseptic Surgery.

In an editorial in the *Medical Press and Circular* of Feb. 8th, 1893, called "Reversions in Antiseptic Surgery," we find a criticism of the last utterances of Sir Joseph Lister in his post-graduate lectures. The part in which the medical profession will be chiefly interested is that regarding the treatment of sponges required to render them fit for surgical purposes.

Sir Joseph Lister's utterances in this respect are spoken of as follows: "When, however, we come to his further teaching as to the use of sponges, the revolution is so complete that at first one is lost in astonishment. The mere mention of sponges in connection with surgical operations will appear strange to many modern surgeons who have entirely discarded their use, and regard them as vehicles for the dissemination, not only of bacteria, but possibly also of cancer germs and other obscure evils. We have been taught that there was no more fertile source of mischief in the old 'pre-antiseptic era,' so to speak, than the convenient but deadly sponge, in whose recesses, charged with nutrient matter, hosts of pathogenic bacteria might thrive and multiply; so that the majority of surgeons hailed with pleasure the practical advances which directed them to throw away their sponges, and to use instead a sterilized pad of absorbent wool, or other convenient material. It is beyond question that no substitute yet introduced is able to absorb blood with the ease and readiness of a sponge, bu even that objection is much lessened by the practise of bloodless methods, of which Professor Lister has been so consistent an advocate. That distinguished authority not only uses sponges, but treats them in a way calculated to make the hair of the modern surgeon, trained, as he is, in the gospel of absolute cleanliness, to stand on end. He tells us that in private practice he purifies his sponges in a somewhat rough-and-ready manner. He simply throws them, after an operation, into a tank of water, where he allows them to putrefy. He then washes them in water until the fibrin, liquefied by putrefaction, no longer gives a red color to the washings, whereupon he puts them away in a one to twenty solution of carbolic acid. In his Edinburgh practice he tells us he has even gone further, and used them for operations before the water that came away from the sponges was completely freed from the red color, and has applied such a sponge to a wound directly for the purpose of applying elastic pressure and for absorbing blood. These statements are most suggestive and important, coming, as they do, from a surgeon who is no less conscientious in his treatment than he is exact in his observations and logical in his deductions. It may be questioned, however, how far it would be advisable for the profession generally to adopt such a 'rough-and-ready' method for cleansing sponges or indeed, for that matter, to return at all to the use of sponges for surgical purposes."

HYDROCELE.

Dr. W. Joseph Hearn, in the *Virginia Medical Monthly*, suggests the following treatment for this condition: He cuts down upon the sac, and, catching it, makes a hole sufficiently large to permit the introduction of a mop of cotton; after the serum is drawn out he dries the cavity by means of sterile cotton, and then swabs it out with deliquescent carbolic acid; a small piece of bichloride gauze is introduced in the opening in the sac in order to facilitate drainage, and an antiseptic dressing is applied. At the end of twenty-four hours the capillary drain is removed, and the case goes on to an uninterrupted recovery. The drainage prevents the accumulation of the inflammatory products; and its subsequent solidification permits of and favors complete collapse of the sac, diminishes the infiltration of the scrotal connective tissues by favoring the removal of infiltration serum, which must of necessity develop during the first twenty-four to thirty-six hours through the drainage path. This operation, in Dr. Hearn's hands, has proven successful, and is, I believe, from a scientific standpoint, the most valuable operation which we possess. An essential feature, of course is thorough and efficient antisepsis.

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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The Effect of Incomplete Sexual Intercourse upon the Male.

Dr. G. E. Brewer, in the *Journal of Cutaneous and Genito-Urinary Diseases*, quoting from Dr. A. Peyers, *Ein Studie aus der Praxis*, says: The untoward effect of the interrupted or incomplete sexual act in the production or aggravation of a condition of neurasthenia is generally recognized.

The chief symptoms of this condition are insomnia, restlessness, mental depression, headache, partial or complete syncope, dyspepsia, diminution of the sexual appetite, and often absolute impotence.

Examination reveals the presence of a hypersensitive urethra, especially in the prostatic region, with marked hyperæmia of the mucous membrane. The prostate may become enlarged.

In recent cases the prognosis is good if the cause can be removed; in more advanced cases, and where marked sexual weakness exists from congenital or other causes, the outlook is more grave.

The treatment should consist in measures undertaken to overcome the deep urethral sensitiveness, and to improve the general health.

[I have had several cases under treatment, during the past year, of neurasthenia from this cause—diminution of the sexual appetite, partial impotence, pre-emission, and a gleety discharge being the main symptoms complained of. The incompleteness of the act is due, in most of these cases, to that most pernicious habit of "withdrawal." In others similar nervous results are due to excessive fondling, without any attempt at intercourse. Tonics, strychnia, rest, and local application, together with cessation of the bad habits, have effected a cure.—E.E.K.]

Deviations of the Ureters from the Normal.

Poirier, in *Gazzetta degli Ospitali*, reports that a double ureter is by no means a rarity, he having found by injecting a large number of ureters that it occurred eight times in 220 subjects. He also observed that fluid injected into the ureters passes into the renal vein. This is not due to putrefaction of the corpse, although he first noticed it in a cadaver about twenty-four hours after death. Yet he confirmed it by experiments on living dogs. Whether it be a physiological phenomenon or due to rupture, the writer will not attempt to decide.

[I have found one case of the exceedingly rare occurrence of four complete ureters, *i.e.*, double on each side, with four urethral openings in the bladder—once double complete on one side, and twice the ureter was double for some distance (not measured) from the kidney, but united before its entrance into the bladder. All of these cases occurred in one institution, and the total number of autopsies did not exceed thirty.—E.E.K.]

EXPERIMENTAL RESEARCH IN THE INNERVATION OF THE BLADDER.

Dr. Von Zeissl, in *Ann. d. Mal. d'Org. Genito-Urin.*, after careful and protracted research, has reached the following conclusions in regard to the innervation of the bladder:

(1) The erector nerve (Eckard) is the motor nerve of the muscular coat, and opens the sphincter.

(2) The opening of the sphincter of the bladder takes place independently of the muscular coat.

(3) The hypogastric nerves close the vesical orifice. The motor action of these nerves on the bladder is feeble.

(4) The hypogastric nerves arrest the spontaneous movements of the bladder, as can occasionally be observed.

(5) The hypogastric and erector nerves appear to obey the law of crossed innervation formulated by Von Basch. According to this law, the nerve-trunks which control the motor nerves of a system of muscles also innervate the antagonistic muscular fibres contained in the same system.

(6) The erector nerve contains, therefore, motor fibres for the longitudinal muscular fibres of the bladder and inhibitory fibres for the sphincter, or for the circular muscular fibres.

(7) The hypogastric nerves contain motor fibres for the sphincter and inhibitory fibres for the muscular coat of the bladder.—*Inter. Med. Mag.*

MYOMA OF THE FEMALE BLADDER.

Myoma of the bladder is an uncommon affection; in women it is very rare indeed. Virchow's opinion that such tumors are always connected with the prostate is a sufficient proof of this assertion.

CASE. M.S., æt. 40, unmarried, was sent into the Rotunda Hospital on June 22nd last. She complained of passing blood in her urine, which had occurred during the two previous years, frequent micturition, and pain when walking. On examination it was found that the urine drawn off with a catheter contained blood, and that the last few drops consisted almost entirely of red blood. Bimanual examination suggested the propriety of dilating the urethra and exploring the bladder with the finger, and thus a polypus somewhat larger than a billiard ball and attached to the fundus of the bladder was discovered. This tumor being too large to remove per urethram, the vulva was laid open by the lateral incisions and the vesico-vaginal septum divided in the middle line. An écraseur having been introduced through the urethra, the wire was easily adjusted by means of a finger passed through the opening in the vesico-vaginal septum, and, the pedicle having been divided, the growth was removed. The fistula and incisions into the vulva were closed by suture and healed by first intention.

In a monograph upon diseases of the bladder (*Deutsche Chirurgie*) the late Prof. Ultzman alludes to a case, which I have not been able to trace farther, in which A. R. Jackson found a myoma as large as his fist in the bladder of a woman which, after removal, presented the same structure as a uterine myoma.— *W. J. Shrigley, M.D., in Medical Press.*

Phimosis and Circumcision.

Dr. Horace G. Wetherell concludes an article on this subject (*University Medical Magazine*) with the following:

(1) That each male child should be examined at birth for obstructive phimosis when we examine for imperforate anus.

(2) That the prepuce should be retracted fully, and all adhesions to the glans broken up, all smegma be removed, and the nurse be instructed to retract, wash, and anoint the parts daily for two weeks, and once each week thereafter.

(3) That a long and redundant foreskin, though freely retractable, may be a cause of local and reflex diseases, may occasion, or at least aggregate, an undue sexual appetite, and so predispose to masturbation, sexual excesses, and ultimately to venereal diseases.

(4) That such cases should be circumcised, as should the cases where the foreskin is not retractable.

(5) That routine circumcision of all male infants is to be condemned. That the prepuce plays an important part in the human economy, and should not be amputated except for good and sufficient reasons.

(6) The unhappy experience of the fatal case cited demonstrates that this little operation may be attended by grave dangers, and should be undertaken with this risk in view, and only after we are assured that the parents' families are not bleeders.

(7) That infants may endure a copious hemorrhage far better than we have heretofore supposed.

[We agree with these conclusions, but think that the second should be more clearly defined, *if these adhesions are slight;* but in cases where the adhesion is almost or entirely complete, then circumcision should be done. The constant drawing backward of a prepuce with an exceedingly small opening, even after the adhesions have been broken down, is painful and irritating; the foreskin should be amputated.—E.E.K.]

PEDIATRICS

IN CHARGE OF

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STOMATITIS DUE TO THE IRRITATION OF EPITHELIAL PEARLS IN THE MOUTHS OF NEW-BORN CHILDREN.

Henry J. Garrigues, in the *Medical News*, says: The details of two cases are given. In the first, the ulceration originated in an epithelial pearl; in the second, in the weak spot covering the hamular process of the sphenoid. Fifty-two babies were examined, and nearly all had one or more white nodules on the palate at birth. Of these, twenty-seven had their mouths carefully washed, and twelve developed a more or less sore mouth, the ulceration always beginning at the epithelial pearls, with the exception of the one case of Beduar's aphthæ, where the ulceration was over the hamular process of the sphenoid. In the last twenty-five cases no washing out was done, and of these babies not a single one got a sore mouth. In a total of fifty-seven cases which were examined—fifty-two in hospital and five in private practice—fifty-three, or ninety-three per cent., had congenital epithelial pearls.

These epithelial pearls are small, white, globular tumors, varying in size from that of a pin head to that of a millet seed, situated in the raphe of the palate, preferably at the juncture of the hard and soft palate. Sometimes there is only one; in other cases, from two to five. The outer surface is almost cartilaginous, while the interior is filled with a softer mass. The whole mass is composed of epithelial cells like those of the mucous membrane of the mouth.

As to diagnosis, they are easily distinguished by their definite locality and their regular, round, globular shape. Beduar's ulcer always develops laterally and usually bilaterally on the place corresponding to the hamular process of the sphenoid. Sprue forms small, irregular, less elevated white spots, which are never congenital, and are found in any part of the buccal membrane, without any symmetrical distribution. In regard to treatment, we must remember that the epithelial pearls, being physiologic formations, destined to a spontaneous disappearance, do not call for any treatment, and that all we have to do is not to injure them.

SCORBUTUS IN INFANCY.

McManus, James (*Med. Rec.*, 1892, xlii., 575), says: He was called in September, 1890, to a child, W. M——, aged twenty months, bottle-fed, who had been having a diarrhœa for some weeks. The child had only a few teeth, and there were besides other marked evidences of rickets. The diarrhœic stools were of a dark, grumous character; there were ecchymotic spots over the lower extremities, and on the right leg, midway between the knee and the ankle, there was apparently a bruise, which was tender. The mother denied that the child had received a bruise.

The gums were swollen, and bled readily on slight pressure. The child had been fed upon condensed milk alone, which it devoured ravenously, and occasionally vomited. He gave it calomel, bismuth, and lactopeptine; ordered fresh cow's milk, beef tea, orange juice, and lemonade, and at his third visit, one week later, all the scorbutic symptoms had disappeared. After that it was put upon appropriate treatment for rickets, which now, happily, it has recovered from.—*Archives of Pediatrics.*

DIPHTHERIA AND CROUP.

The science of bacteriology has already opened a floodway of light upon many obscure problems in the etiology of disease; and evidence is not wanting as to the practical application of the information obtained from this source. While perhaps not yet absolutely proved, there is abundant testimony, clinical and otherwise, pointing to the identity of the two processes, diphtheria and croup. Partly in consequence of early teaching, partly because the evidence is not conclusive, there is still a minority that maintains the individuality of the two affections. One of the most conclusive clinical arguments of their identity is afforded by the fact that in some of the large continental hospitals cases of croup and diphtheria are placed side by side in the same ward, and the cases of croup do not become infected: while it is not rare for diphtheria to develop in a family in which an apparent case of croup has been present.

The almost general acceptance of the dictum of identity is indicated by the tendency to treat cases of croup as though they were diphtheritic, and the instructions of boards of health that cases of croup be reported. Fraenkel (*Deutsche medicin. Wochenschr.*, No. 24, 1892, p. 564) has added an opportune and valuable contribution to the controversy. The opportunity was afforded him of holding autopsies in four cases, all clinically typical instances of croup. In none were the subjective or objective evidences of pharyngeal involvement present. All presented hoarseness and marked difficulty in breathing. In two, tracheotomy was performed. The autopsies confirmed the freedom of the pharyngeal structures. In one case the membrane was situated below the glottis. Examination of the membrane present in each case disclosed the presence of the bacillus of diphtheria described by Klebs and Leoffler, the identity of which was absolutely assured by the presence of morphologic appearances, by its behavior in culture, and by its pathogenicity to animals. It is true that the number of cases reported is small, but the evidence adduced is positive and conclusive, and not to be controverted by any negative evidence.—*Medical News.*

The Cry in the Diagnosis of Disease in Children.

The cry of children, according to Dr. E. C. Hill (*Denver Med. Times*), in pneumonia and capillary bronchitis is moderate and peevish and muffled, as if the door were shut between child and hearer. The cry of croup is hoarse, brassy and metallic, with a crowing inspiration. That of cerebral disease, particularly hydrocephalus, is short, sharp, shrill, and solitary. Marasmus and tubercular peritonitis are manifested by moaning and wailing. Obstinate, passionate, and long-continued crying tells of earache, thirst, hunger, original meanness, or the pricking of a pin. The pleuritic is louder and shriller than the pneumonic, and is evoked by moving the child or on coughing. The cry of intestinal ailments is often accompanied by wriggling and writhing before defecation. Exhaustion is manifested with a whine. Crying only, or just after coughing, indicates pain caused by the act. The return or inspiratory part of the cry grows weaker toward the fatal end of all diseases, and the absence of crying during disease is often of graver import than its presence, showing complete exhaustion and loss of power. Loud screaming sometimes tells of renal gravel.

Chorea.

Dr. Sewening records a case of chorea in which marvellous results were produced by iodide of potassium. The patient (a girl) was ten years old, and had suffered from the affection twelve months, all modes of treatment proving futile. He prescribed a solution (one to sixty) of the salt named in distilled water, one tablespoonful being taken three times a day. Immediately the medicine was begun improvement was noted, and before the patient had taken two drachms the chorea had vanished, leaving no trace behind.—*Prov. Medical Journal.*

PATHOLOGY

IN CHARGE OF

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Human and Fowl Tuberculosis.

MM. Strauss and Gamaleia have indisputably demonstrated, by cultures and inoculations, the difference between the bacilli causing avian and those causing mammalian tuberculosis. The characteristic lesions produced by the inoculation of cultures on animals were even more striking than the differences in the cultures themselves. Whether the method adopted was subcutaneous, intraperitoneal, intrapulmonic, or intravenous, they found invariably that the animals inoculated with human bacilli presented at death a general eruption of macroscopically visible tubercles, hypertrophied caseous glands, and an enlarged yellow spleen; but if the bacilli were of an avian source, there was no eruption of macroscopically visible tubercles; the bacilli were occasionally found in the organs, but the most common lesion was a swollen, red spleen. They experimented similarly on rabbits, and found that the usual pathological appearance in those animals injected with human bacilli was an eruption of tubercles, particularly abundant in the lungs, while the animals treated with fowl bacilli likewise succumbed, but presented no tubercles visible to the naked eye. The important question rises: "Are men susceptible to fowl tubercle bacilli?" So far as P. is aware, in no case has a culture presenting features identical with those of fowl tuberculosis been obtained from a human subject, but a sufficient number of experiments have probably not yet been made to justify a reply in the negative.

From the distribution of the anatomical lesions in fowl, it seems probable that infection occurs through the intestinal rather than the respiratory tract. Examination of the mucous surface of the former in a fowl which has succumbed to an attack of tuberculosis discloses numerous ulcers with infiltrated edges, while nodules of varying size are often found in or attached to the intestinal wall. These sometimes undergo caseous degeneration, discharge their contents into the tube, and produce a pouch or diverticulum. The appearance of the liver is even more characteristic. Scattered over its surface are multiple whitish-yellow patches, differing considerably in size, extending for various depths into the substance of the liver, and apparently as numerous in the deep as in the superficial parts. Jaundice is an exceedingly rare complication, however. The spleen contains similar nodules; the remaining abdominal viscera are, as a rule, free from disease. In the preparation of the fowl for the market, the internal organs are sometimes found to be in the above condition. This does not, in the opinion of those engaged in the work of preparation, render the fowl in any way unfit for food. The safety of this practice may possibly be questioned.—*Dublin Jour. Med. Science.*

THE AMŒBA COLI: ITS RELATION TO DYSENTERY AND TROPICAL SUPPURATIVE HEPATITIS.

In the *Indian Medical Gazette* for November, 1892, Surgeon-Captain Patrick Hehir, of Hyderabad, gives the results of some of his studies on the organisms found in tropical dysentery and hepatic abscess. He is particularly fortunate in being located in a region in which these affections are very prevalent. As causes of the epidemic of dysentery which he observed, he mentions (1) the amœba coli; (2) malaria; (3) exposure to sudden vicissitudes of temperature; (4) putrefaction of animal matter, especially that of human ordure; (5) infection from other cases of dysentery; (6) mechanical and other engorgement; (7) *bacillus dysentericus.* In the evacuation of dysenteric patients the amœba coli was found frequently, but not invariably; and it was also found in other bowel affections, as the mucous enteritis of infants, simple diarrhœa, and in some cases of catarrhal inflammation of the rectum, due to engorgement. The *bacillus dysentericus* found by Hehir, and considered pathogenic, was found associated with the amœba coli, and is described as a short, straight bacillus, usually of a length about equal to one-third the diameter of a red blood corpuscle, with rounded ends sometimes jointed, rarely cured. These bacilli were sometimes present in vast numbers. They were sometimes found in the substance of amœba coli, and when lying in the vacuoles of the amœba they could be easily seen. They stained well with methyl blue. No culture experiments with this microbe are recorded. These bacilli were often found in the pus of liver abscesses; but in four cases in which he was able to demonstrate the amœba coli in aspirated peritoneal fluid, Hehir failed to find his *bacillus dysentericus.*

Since he has succeeded in demonstrating the amœba coli in the peritoneal effusion of suppurative hepatitis following dysentery, Hehir is strongly in favor of the views of Councilman, who maintains that one mode of liver infection from dysentery is brought about by the amœba passing through the walls of the diseased bowel, and across the peritoneal cavity to the liver. In fact, he believes that this direct infection is of chief importance in the production of liver abscess of amœbic dysentery, rather than the infection by means of emboli along the blood or lymph streams.—*Editor, in Journal American Medical Association.*

The Etiology of Primary Laryngeal Croup.

Fraenkel has investigated four typical cases of primary laryngeal croup, in order, if possible, to settle the question of its causation. The cases occurred in the General Hospital, Hamburg.

Case 1. A youth was suddenly attacked with dyspnœa. At the time of the attack there was no affection of the buccal cavity, although he had complained of sore throat about two weeks before. On the third day of the attack he was taken into the hospital. Tracheotomy was performed, and he died the next night.

Case 2. A man aged forty-six years, liver cirrhotic, was attacked with hoarseness and dyspnœa; died on the seventh day; no tracheotomy.

Case 3. A boy aged nine years; hoarseness and dypnoea for two days; tracheotomy; death.

Case 4. A child of two years of age; death.

In all these cases the autopsy revealed the fact that a firm membranous cast had formed, extending from the larynx downwards for a variable distance.

In this membrane the bacilli of diphtheria were present mostly in pure growth, *i.e.*, not mixed with other germs. Cultures were made and tested for virulence; a modification of Loeffler's method employed. The buccal cavity was free from any infection.

Fraenkel concludes that the instances were cases of so-called *idiopathic* laryngeal croup, and that such cases are etiologically identical with true diphtheria, both being due to Loeffler's bacillus.—*Centralb. f. Bakt. u. Parasit.*, Dec. 28, 1892.—[J.L.]

Frisch on Urine Deposits.

At the last meeting of the Gesellschaft der Aerzte, Prof. Frisch showed a few microscopic preparations of urine which he had sealed after a method of his own for preserving urine sediments, as urates, cystine, crystals of phosphate of lime, indigo crystals, etc., which are in no way affected by keeping any length of time. The specimen is placed on a slide in a thin layer and dried, not completely; after this mixed with gelatine and glycerine—one part of gelatine, four parts of glycerine, and two parts of water, which is often used for making microtomic sections. This mixture becomes hard and cold, and fluid with slight heating. The advantage he claims for this method is that it has little refractive power, and is almost transparent, in which the colorless sediment can be easily distinguished; it mixes readily with water, whereby the sediment can be retained in a crystalline form as well as the organic deposit.—*Eng. Med. Press.*

Editorials.

OUR CHOLERA ISSUE.

WE are pleased to know that our last issue of THE PRACTITIONER was highly appreciated. We regret that a couple of mistakes were made, which, although not of much interest to ordinary readers, might materially affect our relationship with valuable exchanges. According to our announcement in the first editorial, we published a number of selected articles, written by men well and favorably known to the medical world; but it unfortunately happened that we did not, in all cases, give due credit to the journals to which we were indebted. We desire now to supply omissions and correct mistakes.

The articles on "Bacteriology of Cholera and Methods of Disinfection," and "Hygiene of Cholera," were read by Drs. Geo. M. Sternberg and A. L. Gihon, respectively, at a special meeting of the Medical Society of the County of Kings, held September 6th, 1892, and published in a special edition of the *Brooklyn Medical Journal*, September 10th, 1892. The following articles: "Prophylactic Measures against Cholera," by Dr. A. C. Abbott, of Philadelphia; "Cholera and its Migrations," by Dr. Henry Hartshorn, of Philadelphia; and "The Treatment of Cholera," by Dr. Roberts Bartholow, of Philadelphia, were originally published in the *Philadelphia Medical News*. The article on "A Clinical Study of Eleven Cases of Asiatic Cholera treated by Hypodermoclysis and Enteroclysis," by Dr. Judson Daland, first appeared in the *University Medical Magazine*, of Philadelphia. In our table of contents, "Original Communications" should have been "Selected Articles."

THE MEDICAL HEALTH OFFICER OF TORONTO.

THE election of Dr. Charles Sheard to the position of Medical Health Officer of Toronto has given general satisfaction to the profession of this city. So far as we can learn, we have reason to believe that the general public heartily approve of the council's choice. Dr. Sheard possesses a happy combination of qualities which make him well fitted for his new office. He has high talents, common sense, good judgment, scientific knowledge, and rare executive ability. Being a man of means, and the possessor of a large amount of city property, he is in a position to take a perfectly independent stand, and, at the same time, to have an eye to economy in all his acts.

He has already thrown into his work his characteristic energy, and is working early and late to get his very important department in good working order. The members of the profession recognize with pleasure that he assumes no theatrical attitudes, and puts forth no efforts to advertise his own doings, or exaggerate the importance of any epidemics with which he vigorously attempts to cope.

Toronto is a healthy city, with a low death rate. Sensational reports respecting certain epidemics have done much harm in the past, and are not likely to be spread in the future under the present régime. We have no desire to see the public filled with a sense of security not founded on facts; but we decidedly object to the creation of needless alarm. The Health Department will have plenty to do in fighting against preventable diseases; but quiet, persistent work—not talk—is what we want. Dr. Sheard appears to have a keen appreciation of the position of things, and the grave responsibility he assumes in taking charge of the Health Office. We sincerely hope he will have the unanimous support of the profession in his arduous undertaking. Such support will greatly assist him in gaining and retaining the confidence of the general public. Without any reference to other admirable men whose names have recently been mentioned in connection with this office, we venture to predict that Dr. Sheard will be found the right man in the right place.

THE ONTARIO MEDICAL ACT.

THE profession have heard more about the Ontario Medical Act during the last year and a half than they did during all the former years since the establishment of the Medical Council of Ontario in 1866. The Medical Defence Association has certainly done good in more ways than one. It has induced a large number of physicians, who formerly took little or no interest in the proceedings of our medical parliament, to study the matters which have recently been so thoroughly ventilated. It has also brought forth from the council many explanations which have thrown considerable light upon many vexed questions. The attacks on the council have been remarkably bitter; the replies have been slightly heated, and somewhat marred by personalities.

We sincerely trust that the leaders on both sides, in the coming discussions, will be conciliatory and dignified. We hope their interest and aim are similar. They certainly should be. It is exceedingly important that our Medical Council be not destroyed. With all its imperfections, it has done much for our profession and for higher medical education, and is likely to do more in the future. The following petition, which has been largely signed, needs no explanations:

To the Honorable the Premier, the Government, and the Legislative Assembly of Ontario:

We, the undersigned members of the College of Physicians and Surgeons of Ontario, have inferred from statements in the public press that certain practitioners of medicine, under the name of the Medical Defence Association, intend this coming session to ask for legislation whereby changes radical and questionable in character would be effected in the constitution of the incorporated profession. The medical electorate at large is the best jury in the premises; all matters in dispute can be pronounced upon at the next council election, which takes place next year, and in which every medical practitioner will have full and free exercise of the franchise. Therefore, believing that all differences of opinion can best be settled by ourselves, we pray your honorable body that no requests for legislation be entertained other than those made by, or through, our accredited representatives, the Medical Council.

We think the suggestion to allow the decision of certain questions to depend on the results of the next elections is a good one. If the council will accept the most important plank of the "Defence" platform, requiring an increased representation from the profession, the result of an appeal to the electorate ought to afford the most satisfactory solution of the various difficulties that have arisen.

DELAY IS SUICIDAL.

THE actions of the city council, during the past few years, prove that we are a slow people to grasp the main idea; or that we do not retain the grasp after having made it. It takes about a decade to thoroughly arouse the powers that be to a sense of an impending calamity. We strain at a gnat, but goodness knows what we swallow. We prefer not to name it—anything from microbes to Toronto Bay eels. Every fresh examination reveals new wonders. There are three gigantic questions that must be settled at once, if the health of this fair city is to be maintained at its present standard: the water supply; the ventilation of the sewers; and the construction of a trunk sewer, which carries with it the disposal of the sewage. The civic government haggle and squabble about the paying of a living salary to a good man, a man thorough in his profession, one who could be independent of the cliques and wire-pullers of the council. What is a salary of $5000 or $10,000 a year paid to a thoroughly competent and reliable engineer compared with the health of the community? The difference in salary would be almost made up from the reduction of pauper patients kept in the hospitals, at the city's expense, by decreasing the preventable diseases, such as typhoid, diphtheria, etc. Would any large city of the United States or Great Britain allow a few paltry dollars to stand in the way of these absolutely necessary public works? We say positively, "No"; then why should Toronto? One man can only accomplish a certain amount of work in a day. No man can do two men's work and do it in a satisfactory manner. No man can serve two masters and give satisfaction to both, and especially with such wide differences of opinion as are held by the members of the city council, on the one hand, and the citizens on the other. How can we expect a city engineer to solve such intricate problems as the water supply, trunk sewer, Ashbridge Bay reclamation, and ventilating of the sewers in a reasonably short time if he is to be at the beck and call of every alderman who wants a culvert laid, some paving relaid, or any of the minor details of civic government explained? It is an undeniable fact that the water supply of a city is the important factor in that city's health; yet from the scandalous manner in which the civic authorities delay and waste valuable time one would think they were discussing some quite unnecessary improvement. The reclamation of Ashbridge's Bay is an important and necessary undertaking. Yet its importance is hardly to be considered when compared with the greater need of pure water. We have had a larger percentage of zymotic disease than than we should have had simply from this fact. The health reports from the City Hall prove that there is no section of the city so healthy as that over the Don. When typhoid was most prevalent, the majority of the cases were west of Yonge street. It is high time that the authorities should be up and doing. Place the city engineer in a fair position. Give him a chance with these problems; and if one man is not enough then, regardless of the salary required, engage the best available expert and have the water supply and sanitary system of our city made the best that money and brains combined will produce, and that at once.

The loss which the city will sustain in health and life by continuing our present suicidal inactivity in these matters cannot be estimated by dollars.

SPECIAL COURSE IN BACTERIOLOGY.

A SPECIAL course in bacteriology was given last May in the Biological Department of the University of Toronto by Professor Ramsay Wright. A fair number of practitioners took advantage of this excellent opportunity, and all such were more than pleased. We are glad to be able to say that Professor Wright intends to give a second course during next month (May) similar to that of last year. A lecture will be delivered each morning—probably at nine o'clock—to be followed by practical work in the laboratory for several hours.

The course will cover the life history of the chief pathogenic forms, the experimental methods employed in studying these, and the applications of bacteriology to diagnosis. Each member of the class will have the use of a microscope (including homogeneous oil immersion lens) and the other appliances necessary for the work. The requisite experimental animals will also be furnished.

The fee for the whole practical course, including the appliances and materials for work, is $25; for the lectures alone, $5. Professor Wright will receive no remuneration for his work. The small fee is charged simply with a view of covering actual expenses of apparatus and materials. It is desirable that the names of those who expect to attend be sent to Professor Wright at once, as he wishes to make certain arrangements in advance.

It is very fortunate, in view of the preparations which are being made to prevent the occurrence of cholera this season, or to treat it, if it should appear, that such an opportunity as this is afforded to the profession; and it is likely that a number of medical health officers and other physicians throughout Ontario will avail themselves of it.

DEATH FROM CHLOROFORM.

ONE of those deplorable, and to a certain extent unavoidable, accidents—death from the administration of chloroform—occurred in St. Michael's Hospital, Toronto, February 25th. An able-bodied laborer required a trifling operation on a frost-bitten toe, and the house surgeon, Dr. R. J. Dwyer, a thoroughly competent, careful, and reliable man, decided to administer a small quantity of chloroform before operating. After using a little more than half a drachm of the anæsthetic, the doctor noticed that the pulse suddenly became weak and the breathing irregular. Energetic efforts to revive the patient failed to prevent death. An inquest was held by Dr. Johnson, resulting in a verdict of "death from accidental causes." A *post-mortem* examination revealed nothing which could account for the fatal result excepting brown atrophy of the heart, a condition which, of course, could not be detected before death.

It was fortunate for Dr. Dwyer that a *post-mortem* examination was made by competent and trustworthy men, who were able to completely exonerate him from all blame. But, at the best, it was a severe ordeal for a young surgeon to pass through. It is just the sort of accident that may ruin one for life. The lesson to be learned is plain, and in the interest of both the profession and the public: No one should attempt, in any particular case, both to administer an anæsthetic and perform an operation.

Meetings of Medical Societies.

THE CLINICAL SOCIETY OF MARYLAND.

(Continued from page 75.)

DR. NORMENT was particularly interested in the suggestion which Dr. Michael made as to the performance of symphysiotomy to save the necessity of craniotomy upon the living child on account of malposition of the fœtus. He had once been compelled to do craniotomy in a face presentation, chin posterior. He saw very readily wherein the operation of symphysiotomy would give relief to that condition.

Dr. Branham thanked Dr. Michael for bringing up the subject. The statistics, as presented, are extremely favorable to the operation. Of course the mortality seems to have been reduced to nothing; but he was inclined to think that it is more than likely the favorable cases have been reported, and the unfavorable cases have not. A good many cases which have gotten well have been followed by chronic diseases of the bones about the pelvis. It is more than probable that there will be a certain number of cases in which more or less permanent injury will result. As far as operation in cases of impaction is concerned, if it can be done in time to save the child it is a very good thing, and will doubtless be carried out in a great many cases.

Dr. Michael: The discussion of the question of symphysiotomy in a case of malposition can only come up when the head is down and impacted. With a child dead, and posterior chin, or a child nearly dead, of course symphysiotomy is not to be thought of; but with a jammed head and a living child, where the alternative rests between craniotomy and symphysiotomy, the latter is to be elected. Dr. Branham's position in regard to conservatism is a proper one. We should always receive new operations with a certain amount of skepticism, and it is very well to look closely into the results of operations before jumping to conclusions. As to the matter of reporting only favorable cases, we certainly have a complete record of the work of men who are prominent in these branches, and in whom the suppression of unsuccessful cases would be simply disgraceful. I am firmly convinced, from Dr. Harris' figures, that there is an amount of improvement in the results of symphysiotomy due to antisepsis that is represented by the reported cases. We have not here an operation which is on trial. When we can present a record of 52 cases, it strikes me that the utility of the operation for saving life has been demonstrated. I think the utility of the operation is demonstrated.

Dr. Hunter Robb read a paper on "Hysteromyomectomy for Large Myomata of the Uterus." Dr. Robb strongly advocates the intraperitoneal method of treating the pedicle after the removal of a myoma of the uterus. The dangers of sepsis and hemorrhage, with improved technique, are less than when the extraperitoneal method is employed, and are not much greater than in an ordinary ovariotomy. The various devices for controlling hemorrhage were considered. The danger from sepsis from the cervical canal can most surely be obviated by curetting both the uterine and cervical mucosa several days prior to the removal of the tumor. At the same time the cavity of the uterus can be cauterized gently with the small point of a Paquelin cautery, and a strip of 10 per cent. iodoform gauze packed in, to be removed the day before the operation. The vagina can be made sterile by irrigation twice daily for two or three days prior to the operation with $\frac{1}{3}$ per cent. warm solution of carbolic acid. The vagina, between douches, should be packed with iodoform gauze. The external genitals should be rendered aseptic. After removal of the tumor, the cervical canal should be sterilized by plunging the Paquelin cautery well into the lumen of the canal. The results obtained by this method in the Johns Hopkins Hospital within the past year and a half have been more satisfactory than where other methods were employed. The period of convalescence is shortened, and there is not nearly so much danger of the hernial complications that are apt to follow other methods. Dr. Robb now drops the pedicle in every case of hysteromyomectomy. The paper was illustrated by large bromide prints showing the different steps taken in the operation described.

Dr. W. P. Chunn thought that a method which had not been mentioned by Dr. Robb, namely, where no pedicle was left at all, was a particularly good variety, and one which would some time come into a great deal of use. In cases where hemorrhage is feared, we advise that an extra suture be passed through the stump and be allowed to come out at the lower end of the abdominal wound, so that it can be gotten at more readily if hemorrhage occurs.

Dr. W. S. Gardner described a method of dealing with the stump by covering it with flaps of peritoneum. He advised cutting out a rim of tissue around the cervical canal, after the use of the Paquelin cautery, so as to get fresh surface, instead of the cauterized. A useful measure to prevent hemorrhage is to pass a stitch around each uterine artery.

Dr. Robb: In my paper I have only considered whether we should drop or in some way fix the pedicle, and I have endeavored to show that, with our improved technique, we are able to drop the pedicle and not treat it by any form of fixation in the abdominal wound.

The point of greatest interest to abdominal surgeons is whether the pedicle is to be treated extraperitoneally or intraperitoneally. The dropping of the pedicle is the ideal procedure, and does much to simplify the operation.

Book Reviews.

HISTORY OF THE LIFE OF D. HAYES AGNEW, M.D., LL.D. By J. Howe Adams, M.D. With fourteen full-page portraits and other illustrations. In one large royal octavo volume, 376 pages, extra cloth, bevelled edges, $2.50 net; half-morocco, gilt top, $3.50. Sold only by subscription. Philadelphia: The F. A. Davis Co., publishers, 1914 and 1916 Cherry street.

We rise from reading the above biography feeling refreshed, strengthened in the belief that success is bound to attend the patient, toiling, and painstaking physician. To have known Dr. Agnew intimately must have been an honor and a pleasure. The writer first met him in 1891, on the train between Philadelphia and Washington. His massive figure and striking features impressed me greatly; but when I listened to his masterly delivery on "The Present Status of Brain Surgery," delivered before the International Congress, then it was that the great surgeon stood forth and impressed those who heard him with his erudition and skill. He held that great congregation of the nation's ablest surgeons spellbound. He had a wonderful magnetism, which is particularly well shown by the power he had over his students.

The author must have had a pleasant task in writing a biography of one so unusually beloved. His ancestors were large men, of Scotch descent, sturdy and plodding. His father, Dr. Robert Agnew, began his professional life as a naval surgeon, but shipwreck on his first voyage changed his plans, and he settled in Lancaster County, Pa., where he acquired a large and lucrative practice. He married the widow of Rev. S. Henderson in 1815, and the subject of this history, D. Hayes Agnew, was the only issue of this marriage—born Nov. 24, 1818. The subject of this biography was always ambitious of being a doctor, in early life playing doctor on every conceivable occasion. How well he succeeded in after life, and how his child dreams were realized, is well told in his biography.

His education was begun in the country schoolhouse, supplemented in a private academy, continued in Jefferson and Newark colleges, and his medical education was begun and completed in the University of Pennsylvania. It is hardly right to say completed there, for he was always a student, and after graduating in 1838 he studied and worked harder than he had ever done as an undergraduate. He married on Nov. 24, 1841, Margaret C. Irwin. There was a break of three years in Dr. Agnew's practice when he engaged in the iron foundry business with his father-in-law. It resulted in failure, and he resumed practice, soon afterwards removing to Philadelphia.

Shortly after coming to Philadelphia, his fortune having been lost in the failure, he bought out the Philadelphia School of Anatomy (1852), and established the Philadelphia School of Operative Surgery in 1854. Both of these schools attained a high standing as factors in the teaching of anatomy and surgery, and had by far the largest attendance of any private institution in the world. Dr. Agnew worked night and day, literally, for these institutions, and his efforts were crowned with the success they merited. He disposed of the School of Anatomy in 1862, and the School of Operative Surgery in 1863. In the same year he was appointed Demonstrator of Anatomy and Lecturer on Clinical Surgery at the University of Pennsylvania. The doctor had his ups and downs, as others have had; he did not use influential friends to push him along, but trusted to indomitable push and steady attention to his profession to bring the advancement he deserved, and ultimately attained. Professor Agnew was not a prolific writer, but his "System of Surgery" was and is a masterpiece. No other man on this continent has had the surgical experience that Agnew had, which makes his system the more valuable, containing statistics the reliability of which cannot be doubted. His work was completed before the days of aseptic surgery, but even that revolutionary event altered very little the work of Agnew. The system was translated into the Japanese language, and is used in Japan as a text-book.

During the civil war he was surgeon in many important military hospitals, and on the field after Gettysburg. He was one of the consulting surgeons in the case of President Garfield, and did all the operations that were done on the President. This particular chapter is full of interesting details, including a minute report of the autopsy. His appointments to civil hospitals were numerous, but he did not receive a professional appointment until 1870, or after being thirty-one years in practice, and his success proves the value of patient plodding. He taught surgery practically, and lectured without manuscript and only a few notes of headings. His home life was greatly to be emulated. His jubilee was celebrated April 6, 1888, and was attended by upwards of two hundred eminent surgeons. His illness was of short duration, only ten days. He was stricken with angina pectoris, but the immediate cause of death was uræmia. The lives of such men as Agnew are well to be studied; they impart new hopes, and buoy up those we have with bright visions of his possibilities. We can learn lessons from such lives that cannot be attained from any other source.

INTERNATIONAL CLINICS. A quarterly of clinical lectures on medicine, neurology, pediatrics, surgery, genito-urinary surgery, gynecology, ophthalmology, laryngology, otology, and dermatology. By professors and lecturers in the leading medical colleges of the United States, Great Britain, and Canada. Edited by John M. Keating, M.D.; Judson Daland, M.D.; J. Mitchell Bruce, M.D., F.R.C.P.; and David Finlay, M.D., F.R.C.P. Published by the J. B. Lippincott Company, Philadelphia.

The volume is prefaced by a short biographical sketch, from the pen of Dr. J. Ashurst, jr., of the late Prof. D. Hayes Agnew, LL.D. The writer has tersely presented a succinct and feeling sketch, in which the ups and downs of the great man are traced. It is a pleasure to read such a biography, and should be a profit to us all. The late professor was undoubtedly a wonderful man, in many respects. In several branches of surgery he was an expert, and as a general surgeon was excelled by none and equalled by few. He has stamped his name so indelibly on the surgical world that his name will always live and his memory be revered. His "Principles and Practice of Surgery" is a thorough and exhaustive treatise ; so carefully written that, even in the light of modern antisepsis, it does not lose any of its lustre. He was a kind and genial friend, always ready to lend an aiding hand to the deserving. A bold and fearless operator; but conservative, never operating where other means could attain the end, yet never shrinking from an operation, no matter how hazardous, when other means failed. His death removed one of the most brilliant lights from the surgical world.

The first clinics in the volume are a case of "Myxœdema," by David W. Finlay, F.R.C.P., and "Myxœdema" by Thos. Oliver, M.A., M.D., both of which are exceedingly instructive. The deficient excretion of urea in these cases is pointed out by Finlay, who used jaborandi and nitro-glycerine in the treatment with benefit, but more decided with the jaborandi. They each materially increased the excretion of urea, and the tension of the skin was reduced. Oliver deals with the functions of the thyroid body, and refers to the fact that "the thyroid gland is the only organ in which constant pathological changes have been found."

Dr. Pye Smith treats of dropsy in a very instructive clinic. After taking up the etiology and diagnosis, he enters fully into the subject of treatment. He refers to the older methods, as pil. scillæ ext. hyd. ox. cin., and pil. hyd. digit. et scillæ, as amongst the most effective medicines, and warns against too much dependence upon the newer drugs. Clinics on "Cardiac Dilatation," "Arterial Sclerosis," "Diagnosis of Cancer of the Stomach," "Localized Ascites from Tubercular Peritonitis" follow, and all are exceedingly good. The one on "Tonic Treatment of Indigestion" we have selected, and will be found on page 263 of this issue.

We pass over numerous clinics, all by good men, simply for want of space; but refer to Dr. Skene's clinic on "Chronic Ovaritis and its Treatment" because it is filled with good, sound advice from a conservative gynecologist. He greatly disapproves of the hasty removal of the ovaries. He does not pronounce cured simply those of his patients who survive the operation, but those who have lost the symptom that necessitated that operation.

"Syphilis as an Etiological Factor in Disease," etc., by Dr. William H. Porter, is well worth spending time in its perusal.

Dr. Francis S. Watson gives an instructive lecture on the removal of bladder tumor. Lectures by Marcus Beck, Thos. A. Ashby, Henry C. Coe, G. M. Lefferts, and others, follow.

On the whole, this volume fully maintains the reputation of the series, and every physician would be materially benefited by having these books on his library shelves, and referring frequently to their contents.

A TREATISE ON DISEASES OF THE RECTUM, ANUS, AND SIGMOID FLEXURE; with six chromo-lithographs and numerous illustrations. By Joseph M. Mathews, M.D. New York : Appleton & Co.

In this work Dr. Mathews gives an excellent account of the present state of our knowledge of this department of surgery ; while the good work done by

Allingham, Gowland, Goodsall, Cooper, Van Buren, and others, is credited to these surgeons, and their respective views stated. The work bears unmistakable marks of the author's originality, and evidence of careful clinical observations are abundant throughout the work.

The pathology is drawn from the most recent sources, and the therapeutics have been largely tested by the author, who, during the past fifteen years, has commanded a large practice as a rectal specialist.

The chapters devoted to the anatomy of the rectum and reflexes, and the nervous rectum, are particularly interesting and instructive. The latter will doubtless enable many to discover a definite and curable lesion for a condition which would otherwise have been marked hysterical, and then therapeutically dropped.

A preference is expressed, in the treatment of internal hemorrhoids, for the ligature over the clamp and cautery, so popular with Kelsey and many other successful rectal surgeons. In our opinion, if those using the clamp and cautery would by means of a pile forcep draw the pile so far down that the clamp could be placed upon it, and the cautery employed absolutely outside the anus, the scorching of the mucous membrane of the rectum, by heat radiated from the cautery used inside the bowel, would be avoided, and the operation would rapidly gain in favor as being safe, effective, expeditious, and almost painless.

The operation of colotomy is discouraged, except as a truly *dernier ressort* in malignant or specific disease at least three and a half inches above the sphincters. A clear account is given of the lumbar and the inguinal operations, preference being expressed for the former. We were disappointed to find no mention of the operation by the median incision ; in speaking of which Greig Smith, in his "Abdominal Surgery," says: "I have never appreciated the so-called advantages of the inguinal incision, and I should, unless there were contraindications, prefer to operate through the linea alba, and make the artificial anus there. Also bringing the bowel to the middle line causes a more acute flexure of its calibre than bringing it out at the inguinal opening ; but this acute flexure is one of the most efficient ways of forming a spur." And further on: "I believe that experience will show that the best method of performing peritoneal colotomy will be by median incision below the umbilicus, that direct implantation will be found most effectual in securing perfect adhesion, and that the use of the supporting loops of thread, as practised by Allingham, will be found of value in many cases." In a somewhat recent case where we did the median operation the result was most satisfactory ; an Author's umbilical truss controls the opening nicely, and thirty grains of B. naphthol in each twenty-four hours practically controls the odor.

We have much pleasure in expressing the opinion that the work is highly creditable to the clinical acumen and powers of observation of the author. We know of nothing better upon the subject.

A TREATISE ON NERVOUS AND MENTAL DISEASES, FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic, etc. Philadelphia: Lea Brothers & Co.

The first one hundred pages of this work are devoted to the anatomy of the nervous system, and to electricity as used in medicine. The anatomical illustrations are abundant, and, as the author says, make plain all the facts of structure necessary to a comprehension of nervous diseases. In the electricity chapter, the practitioner will get all necessary information for selecting a suitable battery; and also a statement of the diagnostic uses of electricity, an explanation of the reaction of degeneration, etc. Part II. treats of nervous diseases, and Part III. of mental diseases. The general practitioner will probably find the chapter in neurasthenia the most valuable one in the work, especially as regards management and treatment. Syringomyelia, acromegaly, and myxœdema find a prominent place; but this is, of course, as it ought to be in a recent treatise on nervous diseases. This is altogether the best American work on the subject, and the treatment is its strong point.

THE YEAR BOOK OF TREATMENT FOR 1893. A critical review for practitioners of medicine and surgery. Philadelphia: Lea Brothers & Co.

This is the ninth year of publication of this valuable work. The contributors, twenty-two in number, are well known as men of eminence in the profession of Great Britain, and their names furnish a sufficient guarantee of the excellence of the book. They give, in a concise form, a clear account of everything of importance that is new in the way of treatment which has been brought out during the past year. Mitchell Bruce has charge of diseases of the heart, etc.; Markham Skerritt, lungs; Ernest Reynolds, nervous system; Maguire, stomach, etc.; Ralfe, kidneys, etc.; Garrod, gout and rheumatism; Phillips, infectious fevers; Buxton, anæsthetics; Boyd, Walsham, Owen, Reginald Harrison, Cooper, Lane, various departments of surgery; Herman, diseases of women; Handfield Jones, midwifery; Morris, skin; Power, eye; Field, ear; Barron, throat and nose; Smith, therapeutics; Corfield, hygiene. It is altogether an admirable and useful little book.

VARIOUS FORMS OF HYSTERICAL OR FUNCTIONAL PARALYSIS. By H. Charlton Bastian, M.A., M.D., F.R.S. H. K. Lewis, Gower street, London, publisher.

The name of the author is sufficient guarantee for the excellence of this little work. To the lectures published last year in the *Lancet* the author has added considerable new material, and published them in book form under the above title. The first part of the book deals with the functional paralysis of cerebral type; then follows the functional paralysis of spinal type. Under each of these classes a number of cases are given. The diagnostician will find this little work of great service in helping him to solve the question, Is it a case of organic disease, or is it one of so-called functional disturbance?

The following pamphlets and reprints have been received.

CHRONIC URETHRITIS. By Dr. R. W. Stewart, Pittsburg. Reprinted from *Pittsburg Medical Review.*

ABSTRACT OF PROCEEDINGS of the Michigan State Board of Health.

"A CASE OF HOMATROPINE SUSCEPTIBILITY," "THE ANTISEPTIC DROPPER," "AMBLYOPIATRICS." All by Dr. George M. Gould, Philadelphia, and reprinted from *The Medical News.*

FOREIGN BODIES IN THE PERITONEAL CAVITY INTRODUCED THROUGH THE GENITAL TRACT, WITH CASE. By Dr. Edward J. Ill, Newark, N.J. Reprinted from *The New York Journal of Gynecology and Obstetrics.*

CONCERNING THE EMPLOYMENT OF LIGHT IN THE TREATMENT OF DISEASE. By Dr. W. F. Arnold, Assistant Surgeon, U.S. Navy. Reprinted from *Southern Practitioner.*

MEMOIR OF D. HAYES AGNEW, M.D., LL.D. By J. William White, Philadelphia. Prepared at the request of and read before the College of Physicians, Philadelphia.

Medical Items.

DR. OSLER, of Baltimore, was in Toronto during the Easter holidays.

DR. THOS. S. CULLEN (Toronto '90), who has been at Johns Hopkins Hospital, Baltimore, during the last two years, sailed from New York for Germany, March 25th. He will remain in Germany about six months.

ITEMS OF GENERAL INTEREST.—In a long editorial in the *Medical Press* of February 8th, 1893, we find a very favorable mention of the Medical Council of Ontario and the Ontario Medical Act. After discussing the procedures recently carried out in the prosecution of several members who were guilty of disgraceful and infamous conduct in a professional respect, the writer says: "Upon the whole, we think that the procedure carried out in accordance with the Ontario Medical Act, for the prosecution of professional offenders, is an improvement upon that which is adopted by the General Medical Council here (Great Britain). It would seem that no sooner is the formal complaint lodged by four practitioners than the council at once takes action and commences an inquiry, the preliminary facts for which are specially investigated by an officer—called a detective—who is in the pay of the council. The inquiry itself would appear to be as searching and as exhaustive as that which takes place before any legal tribunal. In the case of one inquiry, the report of which has reached us, many medical men were called upon to state their views as to the conduct of the alleged offender, and witnesses were submitted to cross-examination by the counsel representing the defendant. No secrecy is made of any of the proceedings; the court is quite open, and the defendant is at liberty to bring whom he likes to testify to the rectitude of his character and practice. The committee's work is then ended until such time as it is necessary for them to report to the council."

The following items are translated from the French by DR. J. A. AMYOT :

ACCORDING to M. Lépine, urine transforms peptones into sugar.—*Lyon Méd.*

THE disagreeable odor of ichthyol can be covered by the addition of a small quantity of coumarine.—*Lyon Méd.*

NAPHTHOL in doses of 6½ grs. per day has been successful as a vermifuge in the hands of M. Dubois when he had failed with santonin and other such drugs.—*Lyon Méd.*

BLACK TÆNIA.—According to M. de Nabias, the coloration of the black tænia in man is produced by bile and not by blood. The pigment is situated in the cuticle. Experimentally, he has been able to stain tænia with bile and with blood. He has been able to study the cycle of life of this black tænia in man.—*L'Union Méd.*

HYDROPHOBIA.—M. Verne, the Superintendent of the Infectious Disease Service Amongst Animals, has reported 128 cases of rabies amongst animals in the Rhone district of France during 1892. Of these, 100 were dogs, 15 cats, 1 horse, 7 cows, 7 hogs, and 1 sheep. The animals bit 84 persons, 72 of whom went to the Pasteur Institute for treatment. Twelve did not ; of these twelve, one, bitten by a dog, died of rabies forty days after being bitten.—*Lyon Méd*

THE TYPHOID MORTALITY IN THE FRENCH ARMY.—M. Juhel Rénoy, in his work on the treatment of typhoid, gives the number of cases of typhoid in the French army from 1875 to 1887 as 141,648 ; of these 21,116 died, or about 15 per cent., a very high percentage, considering the age of the patients ; whilst, on the other hand, in his hospital practice in Paris, where the patients were of all ages, and often had been taken to the hospitals on the eighth or tenth day of the disease, the mortality was 8 per cent. Brand's bath treatment was used in these cases. He comes to the conclusion that if the bath had been used in the military hospitals the reserve of the army would now number 7000 or 8000 more men than at present.—*Lyon Méd.*

ACTION OF THE SOLUBLE PRODUCTS OF THE STREPTOCOCCUS OF ERYSIPELAS, BY M. ROYER.—When the streptococcus of erysipelas is cultivated in a soluble medium and excluded from the air, it produces a toxic substance that alcohol precipitates and heat destroys. The unheated and filtered cultures, injected into the veins of an animal, diminish, in a lasting fashion, the resistance to infection by the streptococcus ; on the other hand, the heated and filtered cultures injected in the same way increase the resistance, and often hinder infection by the streptococcus.—*L'Union Méd.*

CHLOROFORM ANÆSTHESIA, BY GESEVINS.—This author gives the following as the advantages of the administration of chloroform in small continuous quantities : Absence of the stage of excitement ; profound anæsthesia without intermission ; rapid recovery of consciousness ; the absence of after-vomiting, etc. Only half the quantity is used by this method that is used in the old one (0.6 cm. c., instead of 1. cm. c. per minute). As a proof, he cites the case of a man who was being anæsthetized for the twentieth time. He could not be gotten under by the old method; but by the new one was brought to unconsciousness in a short time, and with only a small quantity of chloroform, —*L'Union Méd.*

THE ELIMINATION OF BACTERIA FROM THE ORGANISM.—From their experiments, Drs. Pernice and Scagliosi have come to the following conclusions: (1) Independently of the action of the leucocytes and the blood-plasma in destroying bacteria, the infected organism gets rid of or tries to get rid of them by its different organs of secretion and excretion. (2) Care should, in all cases of general infection, be taken that the secretions and excretions be disinfected. (3 The chief, if not the only, cause that destroys the power of resistance to anthrax in some animals is the deprivation of water, thus causing a diminution of secretion and excretion, and consequently rendering elimination difficult, thus bringing about a fatal accumulation of bacteria in the organism. (4) In general infections it is, then, necessary to stimulate the excretion, particularly from the kidneys; it must not be forgotten, either, that all the organs are more or less altered by the action of bacteria.—*L'Union Méd.*

THE DISTRIBUTION OF MERCURY IN THE ORGANISM.—Following Ludwig's methods, Ullmann has studied the distribution of mercury in the different organs. He found the greatest quantity of the mercury in the kidneys, the liver, the spleen, and in the intestines. It is the large intestine which contains the most, and the stomach the least. Only traces are found in the salivary glands, none at all in the saliva. Mercurial salivation should, then, be looked on as a reflex phenomenon only.—*L'Union Méd.*

EIGHTY-SIX NEEDLES FROM ONE PATIENT.—M. Charton-Bastian reports the case of an epileptic woman, aged 55 years, out of whose body were extracted from time to time during six years eighty-six sewing needles. All of these came through the skin but one, and that was coughed up. These needles were expelled without doing any noticeable damage to either nerves or vessels, and without causing suppuration in any one case. The only premonition of the approach of a needle to the surface to be expelled was a little red painful point on the skin.—*L'Union Méd.*

LARGE BILIARY CALCULI.—M. Andry showed before the Society of Medical Sciences of Lyons some large biliary calculi. The largest of these was over one-half of an inch in diameter. These had been expelled by vomiting. The patient had had eight years previously, after a pregnancy, an attack of biliary colic, but had not since had any return of the complaint. M. Andry thought, on account of the large size of the calculi, that they must have passed from the gall-bladder into the stomach by a fistula.—*Lyon Méd.*

A MECHANICAL TREATMENT FOR HABITUAL CONSTIPATION.—Dr. H. B. Beatty, an English naval surgeon, has treated chronic constipation successfully in the following way: At a convenient hour, once a day, the patient lies on his back and rolls slowly along the course of the colon, commencing at the ilio-cæcal region, a small bag filled with shot. The duration of this manœuvre and the weight of the bag will vary according to the degree of constipation and the point of tolerance of the patient. This method, which practically acts like abdominal massage, and which has the advantage of being capable of being carried out by the patient himself without the aid of a second person, has given very good results.—*Revue Chirurgicale.*

THE TEMPERATURE OF ANTISEPTIC SOLUTIONS.—According to Dr. Aki, heat increases the antiseptic power of bichloride of mercury, at the same time diminishing its poisonous and corrosive effects. The following are his conclusions: (1) The antiseptic power of any solution of the sublimate is increased when raised to 40°C. (2) A 1 in 20,000 solution, and even a 1 in 10,000 solution, warmed to 40°C., might be used in penetrating wounds of the lung, of the pleura, and the peritoneum, without danger. (3) A temperature of 40°C. stimulates the reparative power of the tissues, and accelerates the curative process. On the other hand, a 1 in 1000 cold solution is less antiseptic than a solution ten times as weak, because the warmed weak solution penetrates farther. (4) Raw surfaces unite more quickly when a warm 1 in 500 solution is used, it being less corrosive, than when a cold solution is used.—*Lyon Méd.*

A DEODORANT FOR IODOFORM.—The disagreeable odor that the hands take from the handling of iodoform can be destroyed by using spirits of turpentine. It suffices to rub the hands well with the turpentine and then to wash them with ordinary soap and water. Sputulas, mortars, graduates, or anything that has come in contact with iodoform, may be treated successfully in the same way.—*Revue Chirurgicale.*

SALOL.—Dr. Paul Cornet comes to the following conclusions about salol: (1) Salol is decomposed in the intestine. (2) Salicylic acid is found in the stomach two or three hours after the ingestion of from 2 to 3 grammes. (3) Salol is not entirely decomposed in the intestine. Some is found in the fæces.—*Prog. Méd.*

PEDICULI PUBIS IN THE HAIR OF THE HEAD.—Pediculi pubis have, as a rule, no other habitat but the hair of the genital organs, except when the hair is crisp in other parts. Sometimes they are found, and then chiefly in children, in the eyebrows. According to M. Heisler, the authors are all agreed that they are never found on the head. He reports one case in a boy of fourteen, where they were found in abundance on the eyelashes, eyebrows, and on the head; the hair was covered with nits. The hair was short, blonde, and not curly.—*Lyon Méd.*

THE INFLUENCE OF THE TRANSFUSION OF THE BLOOD OF DOGS VACCINATED AGAINST TUBERCULOSIS ON TUBERCULOUS INFECTION.—MM. Hericourt and Ch. Richet have found that tuberculous material from birds would immunize dogs against human tuberculosis. If the blood of such an immunized dog be transfused into an infected dog, amelioration, and sometimes even cure, results. None of the control animals lived over 32 days. Four of those treated as above lived over 57 days, and two are still living after 105 days.—*Prog. Méd.*

THE ACTION OF DIGITALIN ON THE PULMONARY CIRCULATION.—M. Heger says that though digitalin has a most energetic effect on the left ventricle and on the aorta, it does not in the same way act on the right heart and the pulmonary artery; that though digitalin relieves pulmonary stasis and depletes the lung, it does this not by its action on the right heart, but by its tonic effect on the left ventricle.—*L'Union Méd.*

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ALVEOLAR ABSCESS.*

BY E. HERBERT ADAMS, M.D., D.D.S.

ALVEOLAR abscess is a term applied to any abscess having its origin in the alveolar process of either of the maxillæ. It is generally due to a pericementitis occurring at the apex of the root of the tooth, and caused by the death of the dental pulp. The first pus is pent up in the apical space by bony walls, and the pressure being very great results in the rapid destruction of the surrounding osseous tissue. The pus burrows where there is least resistance, and on account of the cancellous nature of the bone surrounding the root, and the denser nature of the bone nearer the surface, a larger pus cavity is formed.

The pericemental membrane surrounding the apex of the tooth is even yet not perhaps destroyed; but its fibres become elongated and their meshes filled with pus; the swollen tissue forming the shreddy bag-like mass so often seen attached to the end of a root of an abscessed tooth after extraction.

Should the outer lamina of bone be perforated, the pus has then ready exit through the soft tissues. The pain now lessens, and the symptoms abate somewhat. This may, however, be only a temporary cessation. The whole side of the face may swell up, the eye be distorted, or the jaws be so stiffened or swollen that they cannot be separated sufficiently for feeding purposes.

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*Read before the Toronto Medical Society.

An examination will show a large swelling over the affected root. The swelling will usually show signs of fluctuation, and if left to itself will generally open just above the root. It is better, however, to anticipate nature by opening with a bistoury. After the discharge of pus, the swelling and pain usually subside.

Unless the affected tooth is removed, or the diseased pulp removed from the interior of the tooth by a dentist and the pulp cavity rendered aseptic a chronic source of irritation is kept up, and the abscess assumes the chronic type.

In acute alveolar abscess there may be seen, occasionally, a considerable elevation of temperature, even as high as 103° or 104°. During abscess formation, and before the pus has found exit, a peculiar dull, throbbing pain is often present, and the lymphatics at the angle of the jaw are sometimes sore and swollen.

An abscess, if left to itself, usually assumes the chronic form, the pus continuing to be discharged, but in lessened volume. In the chronic form of alveolar abscess the burrowing of pus may cause a fistulous opening in the cheek, chin, or neck, though the most usual place for the abscess to discharge is on the gum over the roof of the affected tooth.

Abscesses associated with the wisdom teeth, or third molars, sometimes pass in the direction of the parotid region. In these cases it is not uncommon to find the orifice of the fistula as low down as the clavicle. This is due to the unyielding character of the parotid fascia, which is a continuation of the deep cervical.

On account of the close relation of the roots of the teeth of the upper jaw to the antrum abscesses may open in the maxillary sinus, and thence be discharged through the nares. These cases are frequently mistaken for a diseased condition of the nasal passages, and treated accordingly, and, of course, invariably without success. The relation of the roots of teeth to the antrum is variable. In some cases the floor of the antrum is perforated by the first and second molars, so you can readily see how an abscess can open in this way.

The habit of applying hot fomentations, poultices, and counter-irritants to the cheek and face is often to blame for abscesses pointing on the face and neck.

One of the most common places for abscessed teeth of the upper jaw to open on the face is just beneath the malar bone, and just in front of the anterior border of the of the masseter muscle. A disfiguring scar often results if the abscess is allowed to open in this or any other facial region. Such abscesses may discharge anywhere below the region of the eye.

Occasionally, abscesses of the superior incisors discharge directly into the nasal cavity, and an abscess of an anterior tooth has been known to pass back beneath the mucous membrane of the hard palate, and discharge at the junction of the hard and soft palate.

The greater number of abscesses discharging on the face are in the lower jaw. This is probably due to gravitation. Frequently these abscesses open first on the gum, but during the healing process this opening becomes closed. Little pus perhaps remains as the abscess becomes chronic, but the slow burrowing of this, according to the law of gravitation, causes it finally to find exit through the lower jaw. There may be no pain nor other symptoms until this opening has occurred, much to the surprise and annoyance of the patient; the pus in some cases passing directly downward through the bone, but more frequently passing outward into the soft tissues, and then following these downward to point at the lower margin of the jaw.

Blind abscesses may occur, the pus being small in quantity, and being apparently absorbed without any external opening being formed for its exit.

Occasionally, alveolar abscesses have been known to cause extensive necrosis of the bones of the face. This is more especially the case in strumous or syphilitic patients.

Abscesses may also form osseous cysts on the side of the jaw. The pus, instead of being absorbed, is provided for by the expansion of the outer plate of the bone. These cysts form some what rapidly, and are sometimes half the size of a hazelnut. The rapid growth of these cysts is an important point in diagnosis.

In persons with an abnormally small jaw, the eruption of the wisdom teeth often causes severe inflammation and abscess, the jaw being too small to accommodate the new tooth. These abscesses generally discharge at the margin of the gum, but the swelling is often so severe as to cause almost complete immobility of the jaw. In a recent case where it was impossible to open the jaw sufficiently to extract the offending wisdom tooth, the second molar was removed, and of course the third molar had now a chance to come forward and the inflammation soon subsided.

Imprisoned teeth may be a cause of alveolar abscess. The diagnosis of these forms is rather obscure. A probe passed into the sinus, if one has been formed—if not, a bistoury passed through the softer parts and bone—will often assist in the diagnosis of such cases. Abscesses of temporary teeth require especial care, and if they are not readily amenable to treatment the diseased tooth should be extracted.

The *diagnosis* in most cases is comparatively simple; but from what has been said it will be seen that the diagnosis, of some forms at least, of alveolar abscess is not an easy matter for the general practitioner. And it is these unusual and anomalous cases that most frequently come under the observation of the physician and surgeon, and the ignorance displayed in treatment renders matters often uncomfortable for the patient, and not infrequently so for the surgeon.

A simple means of testing whether a tooth is abscessed is by rapping the tooth with an instrument. If it should prove tender on pressure, the apical pericemental membrane is inflamed, and the root of the tooth probably abscessed.

Abscesses most frequently occur on teeth with dead pulps. In such teeth the natural translucence of the tooth is gone, the dentinal tubuli being filled up with dead matter, due to the disintegration of the pulp. The dark color and opacity is often very marked, but is occasionally so slight as to escape notice. If, however, the patient is placed in the sunlight and the rays of light reflected on the teeth by means of a mirror, a slight opacity will be noticed.

The patient's notice is often directed to a painful tooth as a possible cause of the trouble, but it must be remembered that neither a decayed tooth nor pain need necessarily be present. The pulp may have died from some other cause, and the diagnosis can be made by the opacity of a tooth and its tenderness on pressure.

The following are some of the cases which have been recorded in dental and medical literature as cases of mistaken diagnosis:

Dr. Otto Arnold (*Dental Review*) mentions a case where a patient was confined to her bed by what her physician supposed to be diphtheria. After being treated for about a week, she began to suspect that her teeth were in some way implicated. The pharynx and tonsils were severely inflamed, but after some difficulty the diagnosis of an impacted wisdom tooth was made, and on its extraction she got well.

Dr. C. R. Butler (*Items of Interest*, 1891) mentions a case, diagnosed by the patient's physicians as carbuncles, but which proved to be due to alveolar abscesses from three dead teeth. On their extraction a cure was effected.

J. P. Wilson (*Items of Interest*, 1888) mentions a case of alveolar abscess of eight years' standing, where there was a fistulous opening over the clavicle, near the place of origin of the platysma myoides muscle. The disease had been pronounced by a council of physicians to be of a strumous character. He removed the roots of a diseased first molar and the discharge soon ceased, and the abscess healed without further treatment.

Dr. Tees (*Items of Interest*, 1886) mentions a case where death occurred from a surgeon performing a surgical operation on a case of alveolar abscess with much facial swelling, the patient sinking gradually after the operation. He states that the abscess differed in no way from an ordinary alveolar abscess, the three roots of the first left superior molar being diseased, and the swelling of a sudden and recent nature.

A case recently occurred which had the following history: A boy had a swelling of the face. His family physician applied poultices and hot fomentations to the side of the face, and afterwards opened into the pus cavity with a lancet. A running ulcer formed, which lasted for about a year and three months. The school authorities refused to admit the boy to school during this time on account of the disease. The boy was examined by a couple of physicians from the civic health department, who also recommended his detention from school. He would probably be absent from school still and the abscess still discharging had not another physician made the diagnosis of an abscessed tooth. On the extraction of this tooth, the abscess healed readily, and the sinus closed of its own accord.

The *treatment* is comparatively simple in most cases, and consists in the evacuation of the contents of the pus cavity, and in injections of antiseptics until it is rendered thoroughly aseptic.

In the more simple cases this is readily accomplished by a dentist drilling through the root canal and thus allowing an exit for the pus, and an opening through which antiseptics can be injected. It is rare, indeed, that a skilled dentist cannot successfully treat even the worst cases by this means. Of course, if the offending tooth is for any reason considered of no value, the simplest method of cure is its removal, when the abscess will, as a rule, heal without any medication.

In some cases a simple way is to drill through the alveolus, just above the root of the tooth, and thus give an exit for the pus, and an opening for antiseptic medication. If it is desirable to keep this sinus open, a simple method is to place a pledget of cotton, soaked in a strong solution of carbolic acid, in the sinus.

In acute alveolar abscess where there is much swelling of the face, it is often well to endeavor to cause the abscess to point on the buccal surface of the gum over the root of the abscessed tooth. This can often be accomplished by the application of a counter-irritant, such as capsicum or cantharidine, to the gum overlying the root of the affected tooth. A roasted fig or raisin is said also to accomplish the same result.

All applications of hot fomentations, or poultices, or counter-irritants to the external surface of the face should be religiously avoided, and if the abscess seems to have a tendency to point externally a free incision for the pus should be made *in* the mouth, and the counter-irritants or other medicaments applied *in* the mouth. This will prevent many an opening on the face, and its consequent scar.

Constitutional treatment should not be neglected where indicated. A saline cathartic will often assist in hastening the removal of an acute abscess.

In those cases where there is a fistulous opening on the face, it is always well to direct, if possible, the discharge into the mouth. If this is done the sinus will heal of its own accord, and the abscess can then be treated in the usual manner. As a rule, the sinus needs little attention after the abscess has healed.

Often considerable disfigurement results from the scar due to a fistulous opening on the face. If under the chin the scar does not show much, and in a male can be covered by a beard. If on the neck it may be hidden by the clothing; but on the cheek, especially in a female, little can be done to hide the disfigurement.

And here let me give a note of warning. A great many cases have come under my observation where surgeons have made external facial incisions simply because the abscess showed a tendency to point on the face. In one case where the simple extraction of the tooth would have been all that was required to heal the abscess (though even that was not necessary), a prominent surgeon made a crucial incision in the cheek, thrust in a couple of his fingers as an exploratory procedure, and then ordered a lotion of ac. carbol., 1 in 20, to be applied externally.

It is needless to state that such treatment is very reprehensible. There are cases where an external incision is indicated, but these are the exception and not the rule. In such cases, if the knife is used in a conservative manner, the healing process is speedy on account of the vascularity of the facial tissues, and often no perceptible scar remains.

From an æsthetic point of view, the surgeon should always endeavor to give vent to the pus by an incision inside the mouth, and not by an incision on the surface of the face.

One of the hardest tests to which my powers of argument were ever put was in persuading a fellow practitioner from making a great gash in the cheek of a lady who had an alveolar abscess, which any good dentist could successfully treat by drilling through the root canal, and giving vent to the pus in that manner.

In regard to antiseptic medication any reliable antiseptic will do. Carbolic acid, peroxide of hydrogen, listerine, and campho-phenique are perhaps the favorites with dentists. Thymol, creasote, oil of cloves, oil of cinnamon, sanitas, salicylic acid, iodine, and various other antiseptics, all have their advocates.

In this paper I have purposely omitted going into the detail of treatment of the simpler forms of alveolar abscesses, as they belong to the domain of the dentist and not of the surgeon. I would also strongly recommend that in all cases of doubtful diagnosis a competent dentist or oral specialist be called into consultation. These abscesses respond speedily to proper treatment, and the diagnosis, too, is, as a rule, simple to the dentist or oral specialist; and yet there are innumerable cases where the patient has been disfigured or inconvenienced for years by this disease simply through the ignorance of their family physician, who has failed to make a correct diagnosis. Later on, perhaps, a correct diagnosis is made by a dentist, or some one who is familiar with the disease, and the patient is cured in a few days or a week. Naturally, the patient is much embittered against the medical man whose ignorance allowed such a foul ulcer to remain on their face for such a long time.

Prophylaxis is of importance in the prevention of alveolar abscesses, but this belongs largely to the domain of the dentist. It should, however, be the duty of every physician, whenever he finds decayed or offensive teeth present in any patient, to impress on them the importance of visiting their dentist and having their teeth attended to.

RADICAL CURE OF STRICTURE OF THE NASAL DUCT.*

By Samuel Theobald, M.D., Baltimore.

FIFTEEN years ago I called attention to the ineffectual use of small probes in the treatment of lachrymal stricture. Dr. Williams and Dr. Noyes also spoke about it at the same time. To-day, while using larger probes than formerly, the majority of the profession are not using as large ones as myself. Some of my first critics said that it was impracticable to insert such probes, and that I must have overlooked the anatomical arrangement of the canal. The fact was that anatomical observation was the foundation of my theory. I examined a number of skulls and cadavers, and I measured the duct by seeing how large a probe I could pass. In experiments on dry skulls I found that in 70 ducts probed; the average size was 4.7 mm. in diameter. I have in my hand a pamphlet of recent date, in which it is claimed that the probes cannot be passed even in the bony canals. As a matter of fact, it is really easier to pass the large probes on the cadaver, because there is more give to the tissues, and you can use more force than is possible in the dry skull without breaking the bones.

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*Read at a meeting of the Clinical Society of Maryland, April 7.

Of ten subjects examined I found the average size of the duct to be 4.7 mm. in diameter, the largest being 7 mm., and the smallest 3 mm., which is equal to a No. 12 probe. Why should we use such large probes? Because the small ones will not produce permanent benefit. De Schweinits, in his latest work ('92), speaks as if he still used Bowman's probes, but lays no stress upon the use of large ones, and gives a doubtful prognosis. Fuchs, in his new work ('92), does not go beyond a No. 6, and as to prognosis says: "Even in the most favorable cases treatment lasts for many weeks, and a recurrence is the rule." After an experience of fifteen years with their use, I can say that there is no class of cases which I approach with more confidence of a successful issue. Of course where we have to deal with a severe case of nasal catarrh or ozæna, we cannot expect the most marked success. Many of the cases I see have been treated before by small probes. I have watched this treatment for years, and have seen no relapses in patients who have been discharged as cured. I believe nearly all the relapses are in patients who have, for one reason or another, ceased before treatment was completed. I invariably endeavor to avoid beginning with the small probe, for it is so easy to produce with them a false passage. I prefer to begin with a No. 5 or a No. 6. There are three kinds of tissues in the duct—mucous membrane, periosteum, and bone. If the closure is due to simple hypertrophy of the membrane, it will probably be relieved by simple collyria. I have never met with blenorrhœa of the lachrymal sac caused by severe ophthalmia. It is almost invariably due to extension of catarrh from the nose. My method of operating is first to anæsthetize with cocaine and then pass a small probe, No. 2 usually, through the puncta, and canaliculus to look for, and, finding it, to overcome any stricture at the juncture of the canal and sac. This facilitates the entrance of the probe-pointed canaliculus knife into the sac. Having slit up the canal I then pass a No. 5 or No. 6 probe, or a smaller one if I fail with these. I anoint the probes with vaseline containing 10 per cent. of cocaine. Having surely entered the sac, we need not hesitate to use force in passing the stricture. I have never seen any serious consequences. Rarely I have had while using the small probes an ecchymosis of the lid, and once or twice slight inflammatory reaction. I do not think it advisable to probe daily unless compelled to do so for want of time. It may excite too much inflammation. Every other day is my custom. I increase by one number each time, skipping a number if very freely passed, or dropping back one if too tight. In two-thirds of all cases, including children, I have used a No. 16. Having reached the largest I intend to use, I then increase the intervals. The only objection I know to the treatment is that the duct may remain too pervious and air passes freely when the nose is blown; but such inconvenience is, I think, very small.

In addition to probing I always prescribe collyria to be used three times daily. The most useful one I have found to be a solution of bichloride of mercury 1-12000. Next to that I prefer solution of alum, 10 grs. to the ounce. I do not attack a fistula or carious bone; they soon take care of themselves if the passage is open. Patients may be taught to probe themselves with the larger probes. Strictureotomy has never appealed to me as rational treatment, nor have I ever had any reason to destroy the lachrymal sac.

Selected Articles.

LECTURES ON THE CONDUCT OF MEDICAL LIFE.

By S. Weir Mitchell, M.D., LL.D.

A GREAT soldier was asked in my presence what was, in warfare, the most interesting thing. He said, "Recruits going into their first battle." What he thought as to the young soldier I feel whenever it is my lot to see a mass of men about to turn from the training of the schools and to face the grim realities of the physician's life.

Here before me are some hundreds of men in the morning of existence. Where will the noonday find you? And the evening hour, when labor is over, and, looking back, the conscience, undisturbed by new ambitions, shall made up the ledger of a life—will it leave you weighted with the debts of wasted chances, or rich with the honest interest of accumulated character? That the veteran, like myself, should look with a certain sad curiosity at a group of young soldiers is not strange. Here are men of varied individuality, of unequal fortunes, of every condition of life—some for whom all their ways have been thus far made easy, some for whom life has been always hard. Here, at least, within these walls you have all had equality of opportunity. Let me hopefully presuppose you one and all to have used with diligence the precious years of training. You have thought, of course, of what you want to win. You vaguely call it success—success in life. That may mean many things you did not want or expect. You will fail where you least look for failure. You will win what you never dreamed of getting. . . . .

I shall try to remember only that you are all to be of the great army of medicine. First of all, I own for you the wish that in this vast organized body you shall take honest pride. Through it you will earn your bread, and, I trust, much beside a mere living. That you may correctly estimate its splendid history, that you may fitly comprehend the opportunities it gives, let us look a little broadly for a time at some of its virtues and some of its values. I could wish that you were really taught something of the wonderful history of medicine. I have myself ancestral pride in the splendor of its conquests, the courage and heroism of its myriad dead. I am fond of saying it is a guild, a fellowship, a brotherhood, older than civilization. It had a creed of moral life antique when Christ was born. No other organization is like it. Customs, code, and creed separate the lawyer and clergyman of different lands; but we in all lands hold the same views, abide by the same moral law, have like ideas of duty and conduct. From Japan to London you may claim medical aid for self or wife or child, and find none willing to take a fee. There is something fine and gracious in this idea.

I once asked the care of a physician I never saw or heard of before in a German town. As I was about to pay him a card dropped from my pocketbook. He glanced at it, and said, "But you are a doctor; I can take nothing—nothing." I remonstrated in vain. "No," he said, "you will make it up to some other doctor." I believe that I have paid this debt and other like debts with interest. I hear now and then of men who break this beautiful rule which makes professional service given by one physician to another a friendly debt for which the whole brotherhood holds itself responsible. Doctors are said to differ, but these bonds of union and generous amity are mysteriously strong. Try to keep them so, and when you serve medical men go about it as if they were laymen. Put away all thought of wasted time, of the commercial values of what you give. The little biscuit you cast on the waters will come back a cheerful loaf. I consider it a glad privilege to help thus my brothers in medicine, and let me assure you few are more heavily taxed than I.

And there is another privilege your profession brings. From the time you graduate until you cease to work, whether in town or country, hospital or wretched homes, the poor will claim from you help in time of sickness. They will do it, too, with tranquil certainty of gracious service on your part.

The greatest of moralists has said, "The poor ye have always with you." I think He meant to speak of the poor as representing opportunities for self-sacrifice never absent. Of a certainty it applies to us. The poor we have always with us—the sick poor. . . . .

On every Friday I conduct the clinical out-service at the Infirmary for Nervous Disease. I never go through these long and tiresome hours of intense attention without feeling that it is needful to put some stress on myself that I be not negligent or hasty, vexed or impatient, or fail as to some of the yet finer qualities of social conduct. I want you also to feel that such self-watchfulness is needed. These early years among the poor, or the class of uncertain debtors, are apt to make some men rude, and uncareful, and ill-tempered. Most honestly do I say that such work is what I may call an acute test of character. . . . .

A part of your life-work consists in giving of your best to those who cannot pay. A part consists in work for honest wages. I think you happy in that our work is not altogether paid labor, and not wholly work without pay. In both are chances which, rightly used, make the good better, the wise wiser; and there are many sides to it all. . . .

I do not like to leave this subject without a living illustration. It is strange and interesting to see what our life does with different kinds of men.

I once went through a hospital ward in France watching the work of a great clinical teacher, long gray in the service of the sick. It was as pretty and gracious a thing as one could see. The examinations were swift, the questions few and ready. Clearly, he liked his work. A kindly word fell now and then; faces lit up as he came near. Now and then he answered a patient gravely and simply where there was real reason to do so, and twice I observed that when he did this he sat down as if in no haste—a nice trait of gentle manners. It was a ward of women, and he was very modest—a too rare thing in French hospitals in my student days, When he went away his interne told me that he had been very sharp with him for a piece of neglect, "but," said the doctor, "he never says a word of blame at the bedside." In fact, this great physician was a gentleman—a much-abused word—but think what that may fully mean; a man in the highest sense of manhood—so gentle (good old English word), that every little or large act of duty or social conduct is made gracious and beautiful because of the way of doing it.

I saw a week later a great French surgeon in his clinic of women. The man was as swift and as skilful as could be. He was also ill-tempered, profane, abrupt, and brutally immodest—a strong, rough, coarse machine; and this was what the medical life had done with two men. With less intellect this rude nature must have altogether failed of success in life. He did not fail being a man of overwhelming force and really admirable mental organization; and so when you read of Abernethy's roughness and the like, pray understand that such great men as he win despite bad manners, and not because of them. There is no place where good breeding and social tact—in a word, habitual good manners—are so much in place as at the bedside or in the ward. When Sir Henry Sidney wrote a letter of advice to his son—the greater Sidney, Sir Philip, he said, "Have good manners for men of all ranks; there is no coin which buyeth so much at small cost."

A clever woman of the world once said to me: "I sent for Dr. A. yesterday, and by mistake the servant left the message with Dr. B. He came at once, and really he was so well-mannered and pleasant that I quite forgot what a fool he is."

I know men who have had large success in practice chiefly because of their gentleness and sweetness in all the relations of life. I know of far more able men who have found life hard and the winning of practice difficult simply because they lacked good manners or wanted tact. We began about the poor, and here we are discussing manners. I had not meant to say of it so much, but, on the whole, I am not sorry. Pray remember, finally, that neatness of dreſs and the extreme of personal cleanliness are, shall I say, a sort of physical good manners, and nowadays the last words of science are enforcing these as essential to surgical success. . .

There is a wise proverb of the east, "He who holds his tongue for a minute is wise with the wisdom of all time." I am fond of proverbs, and this is full of meaning, for really to refrain from instant speech when irritated is victory. An hour later you are sure to be silent enough. The temptation to speech is momentary. Above all, try not to talk of your patients—even with doctors. It is usually a bore to be told of cases, and we only stand it because we expect our own boring to be, in turn, endured. But my ideal doctor who reads, thinks, and has a hobby will not need to gossip about patients. He will have, I trust, nobler subjects of conversation. When I hear a young man talk cases or read them in societies with heavy detail of unimportant symptoms I feel like saying of him, as was once said in my presence of one who amply justified the prediction, "That man has a remarkably fine foundation for dullness in after life." . .

The methods of note-taking you are well taught, and, too, I hope, the best ways of examining your cases. As to this, circumstances must guide you. A patient is often a bad witness, and one man gets at the truth of his case—another does not.

As to acute cases, it is immensely valuable to learn through concentration of attention to be rapid without omissions. Dr. Edward Dalton is quoted as saying to his class, "After careful and repeated auscultation, percussion, palpation, and even succussion of your patient for twenty minutes, *you* may not be very tired. *He* is."

As you go on in practice you will get to be fond of certain drugs. Be a little careful of this habit, which has its reasonable side. Even the best of us fall into this therapeutic trap. I once met in consultation the late Prof. Blank, a delightful and most able physician. As I came out of the house I fell upon his son, also a doctor. "Ah!" he said, "you have been meeting my father; I am sure he advised Plumer's pills"—an old mercurial preparation. It was true.

As I watch the better medical practice, I see a tendency to rely less upon mere drugs, and more and more sharply to question their value. The true middle course is to be skeptical as to new drugs, and to test them over and over before being mentally satisfied. Nor is it well to run into the extreme, which in our civil war caused an order forbidding the use of calomel because of the folly and indiscretion with which a few men had used it. After all, one of the most difficult things in ours, the most inexact of sciences, is to be sure of the value of a drug. When studying the poison of serpents, I found the most positive printed evidence of the certain value of at least forty antidotes. Not one of them was worth the slightest consideration. Such a fact as this makes one careful of crediting the endless cures to be read in the journals.

When you come to read over the works of the great masters, dead or living, and to see how Sydenham or Rush, Cardan or Bright, did their work, you will be struck, as I have been, with the great stress laid upon habits of living—what shall be eaten, diets, exercise, clothing, hours of work and rest. Curiously enough, these dicta are more often found in their records of cases than as positive theses ; a proof that, in his practical work, a man may be better and wiser than in his generalizations. When, therefore, you come to deal with chronic conditions, be sure to learn all there is to learn as to the ways of men, their diet, clothing, sleep, work, play, wine, and tobacco. I like to make a man describe to me, with minute care, his average day. Then I consider, usually, how much of what is clearly wrong may be set right by a life on schedule. After that comes the considerate use of drugs.

The desire for drugs is a remainder from barbarous times. It is much in the way of what I call natural medicine. *Do* this and do *not* do that might cover a large amount of useful treatment if men would but consider the doctor as a wise despot to be implicitly obeyed. But just here I wish to add that the very men who are most chary as to drugs are those who, at times, win splendid therapeutic victories by exclusive diets, or heroic use of powerful medicines.

Much nonsense is talked about the injurious influence of drugs until, in the very word drug, there is a malignant sound. Men used to be overbled or salivated. This does not occur nowadays. And if I asked your whole faculty how many people they have seen permanently injured by mere medication, I fancy they might be puzzled to bring to mind illustrations of such mischief. The belief is another survival of conclusions founded on premises which perished long ago. . . . .

Men in our profession fail more often owing to want of care in investigating cases than for lack of mental power. One man looks at the urine carefully once and decides; another looks once at the night and morning water and concludes; a third asks that there be made no change in diet or habits for a week, and examines the urine over and over, both the night and morning secretion. Of course, this is the only right way. Troublesome? Yes, very! If you do not want to practise medicine as it ought to be practised, better far to get some business which will permit of indolent intellectuation.

A friend of mine had a consultation in the country as to a case of great importance. The attendant fell ill and could not meet him. My friend went over the case with care. It was one of persistent headache. He took home urine of the night and morning, and wrote word that the patient had uræmic intoxication. The attendant said " No "; that neither casts nor albumin were in the urine which he had thrice examined. At last, puzzled, my friend asked if he had studied the night urine. He said "No." And here was the mischief.

I saw to-day a woman of wealth and social importance who, for years, suffered cruelly from headache. Now, as it always began after an hour of very acid vomiting, a dozen of the ablest men in Europe and America, who were led off by the vomiting, failed to take in the whole possibilities, and did not question the eyes. But a little country doctor did, and a tendon or two clipped put that woman back in a state of health. I was one of those who made the mistake, and yet I have written, was perhaps the first to write, on the eye as a cause of headaches of varied type. But to be constantly complete and exact in all examinations is, I admit, hard; nevertheless that way lies success.

And the like axiom applies to treatment. You are taught in acute disease to write your directions and to leave no possibility of change unprovided for. And the acutely ill are prisoners of our will. But how many men think it needful to write out a schedule of life, medicine, diet, exercise, rest for cases of chronic disorder—I do not say disease. I never tire of urging that in attention to minutiæ lies the most uncertain success. A large practice is self-destructive. I mean that no over-busy man can continue to give always, unfailingly, the kind of care patients ought to have. But that is, as I said in my first lecture, a question of enduring energy, and of the firmly made habit of dissatisfaction with the incomplete. If medicine consisted only in mere intellectual endeavor; if to see, hear, feel, weigh, measure, in a word, know all there is to know of a case, were really all; if, then, we only had to say do this or that, one's life might be sufficiently easy.

In time of peril, or under stress of pain, any one, and always the great consultant, can secure absolute obedience. In the daily current of practice, fancy and unbelief, indolence, prejudice, and what not, stand in our way. Busy men, indulged children, hysterical women are your worst difficulties. Then come into play the moral qualities which, in union with educated intellect, make for the triumphs of the great healers of their kind. Are you gentle and yet firm? Have you the power of statement, which is so priceless a gift, the capacity to make the weak, the silly, the obstinate feel as you speak that your earnestness rests on foundations of kindness, and of thoughtful investigation of their needs? Can you, in a word, make people do what you want? Have you the patience to wait untroubled by the follies of the sick, to bide the hour when you can carry your point? Have you the art to convince the mother that the sick child is the last of all who should be left to the misery of self-indulgence? Can you sit by the bedside and gently satisfy some hysterical fool of her capacity to take up anew the reins of self-government? It demands earnestness. It means honest beliefs. It exacts such rule over your own temper; such good manners as few possess in their highest degrees of quality and quantity. Above all, it means that dislike of defeat which makes the great soldier.

A fine thing in our profession that mere hatred of defeat. As I came once out of a consultation with Prof. Gross, he said: " Don't you hate it, sir?" "Hate it; what?" I said. "Hate what?" "Oh, to spend a life like yours or mine, and be beaten—puzzled—licked, sir—by a miserable lump in a woman's breast." I always liked what General Sheridan said to me years ago. I asked how he accounted for his constant success in war. He hesitated, and then replied: " It was because I did so hate to be licked." No matter whence comess this feeling, it is valuable. Cherish it; never lose it. Find reason for disaster, but learn to loathe the result. I never see a death or a grave failure to cure that I am not personally hurt by it. I say, then, " A century hence this will be otherwise," for as I am proud of the past of this great guild, so am I full of glad hope for its future, when it shall have learned the conquest of cancer and tubercle.

I have come again half unexpectedly, as I draw to a close, upon this grave question of the moral qualities needed for the noblest success in medicine. It would lead me, and easily, to talk of the code, of your relations to the secrets of households, to the criminal law as to witnesses, of insurance cases, and the like; but all of this I must leave unsaid, and reject the pages in which I had said something of the ethics of our profession.

You have chosen a life inexorably hard in what it asks of soul and mind and body; but be that as it may, you have taken upon you, I surely think, the most entirely satisfactory of earthly pursuits. I have seen much of men and their ways, but nothing I have seen entitles me to think there is any truer, better way of serving God and man, and in this service making yourself what you ought to be.—*Abstracted from Univ. Med. Mag.*

NOTE ON A REMARKABLE HOUSE EPIDEMIC OF TYPHOID FEVER.

By William Osler, M.D.,
Professor of Medicine in the Johns Hopkins University.

House epidemics of typhoid fever, to the extent and severity of the one here noted, are very rare.

Nov. 26, 1892, I went near Darlington, above Havre de Grace, Md., to see a case in connection with which Dr. Sappington gave me the following remarkable history of a house epidemic of typhoid fever ·

Case 1. Wm. B., aged thirty-seven, had been ill early in August, at Ocean City, with what was supposed to be malaria. He returned to his home in Baltimore, August 8, and on the thirteenth came here to his mother's home, and was ill for six weeks with diarrhœa and delirium ; and had, according to the doctor, a well-marked attack of typhoid fever. There had been no previous illness during the summer in the house, and it is perfectly clear that this, the first case, was imported.

Case 2. His wife, A.B., aged thirty-four, was taken ill about the 29th of September with typhoid fever ; well-marked case ; fever 101° to 104°. At the end of four weeks she was better. She was moved, had hemorrhages, and again was ill six weeks, but ultimately recovered.

Case 3. His sister, M.B., aged twenty-eight, was taken ill about the 29th of September, had a very bad attack, and gradually recovered.

Case 4. J.B., a sister, aged twenty-one, was also taken ill about the third week in September, had fever, not very bad at first, and subsequently had severe hemorrhages, and died October 12th.

Case 5. John B., aged three, son of Wm. B. (Case 1), came with his mother from Baltimore, and was taken ill about the third week in September. He had a mild attack, with fever, abdominal symptoms, and well-marked rose spots.

Case 6. John B., aged thirty-five ; fever began toward the end of September. He had headaches, diarrhœa, and a tolerably sharp attack. Convalesence began about October 17th ; the temperature remained about normal until October 24th, then he had a definite relapse, with fever ranging to 104° and 105°. From November 8th until the 14th there was a period of apyrexia, and then the temperature rose again, and I saw him on the 26th in what appears to be a second relapse. The temperature has been up to 103° and 104°, and on several occasions 105°. On the 25th, for instance, temperature range was between 101° and 105°. He has been delirious, and has had several chills ; great pain in his legs, and very great tenderness of feet, especially on the soles.

This case was away from the house at Annapolis a short time, and was the last to take the fever.

CASE 7. Nurse T., taken ill on the 17th of October, and was removed to the Homœopathic Hospital in Baltimore, where she had a well-characterized attack of typhoid fever, of which she died. She had been in the house forty-two days.

CASE 8. Colored nurse of child; was taken ill about the 10th of October, went to Baltimore, and had a definite attack of typhoid fever and died. She had been in the house twenty-six days.

CASE 9. Miss G., nurse, had been in the house forty-two days, and was taken to Philadelphia ill with typhoid fever, and died on the third week of the attack.

CASE 10. B.B., a sister, had also, according to the doctor's description, typhoid fever, but she kept about the house and would not go to bed for any length of time.

During the months of August, September, October, and November, there were ten cases and four deaths.

The house, a comfortable, old-fashioned, square stone building, is situated on a ridge in a beautiful rolling district of Hartford County, only a few miles from the Susquehanna River. In front of the house the ground slopes rapidly towards the roadway, which runs along a narrow valley. At the back of the house the land slopes more gradually. At a distance of about seventy-eight yards in front and to the left of the stone house, and about two-thirds of the way down the hill, is a comfortable frame house, occupied by the tenant, with a family of nine, of ages from fourteen to eighty-five. About seventy yards further down the valley, close to the roadway, is a spring of clear water, close to which is erected the "spring house" for dairy purposes.

Opening from the kitchen of Mr. B.'s house, which is a T-shaped extension, there is a covered stoop or porch, beneath the floor of which is a cistern, square, with a depth of nine feet, width of ten feet, the bottom of which is ten feet below the surface of the soil. It is cemented, and was last cleaned about May, 1892. This cistern collects the water from the roof, and at one time also received water from the spring, which was pumped up by a ram. This was abandoned years ago.

Immediately behind the kitchen, at a distance of about twenty feet, is a woodshed, and a privy, which is situated on the slope of ground behind the house. The bottom of the privy is on the level of the ground. The difference in level between the bottom of the cistern and the top of the privy is, Mr. B. thinks, about ten feet. This practically is the situation of the surroundings. The house itself inside is comfortable; the rooms are large and convenient. There is nothing whatever in their arrangement to call for special comment.

Dr. Sappington writes that "the household consisted of another brother, who did not go into the sick rooms, but ate the food and drank the water, as did also a colored boy aged fifteen, also the mother (Mrs. B.), also Dr. Sappington drank freely of the spring water, and often had his dinner at the house. A cook could be kept only a short time after the third week, and many things were supplied by their friends."

The source of infection in this epidemic is very difficult to trace. One thing only is certain, namely, that the spring water was not at fault, since living close by and using the water freely was the family of the tenant, every member of which escaped. Two alternatives remain, either the food supplied or the kitchen utensils were in some way infected from the first case, which seems to be by far the most likely view, or the disease was propagated by direct contagion, a view which Dr. Sappington holds very firmly, but which, though not impossible, does not seem to be very likely when one considers the extreme rarity of direct infection in this disease.

Though the surface slope is from the cistern, yet it is quite possible that it may have been contaminated; and if the water was used for washing the kitchen utensils (upon which point it is impossible to get positive information), this would be the most likely source of infection.—*University Medical Magazine.*

Clinical Notes.

COMPOUND COMMINUTED FRACTURE IN THE NEIGHBORHOOD OF THE KNEE JOINT: RECOVERY, WITH MOVABLE JOINT.*

REPORTED BY J. N. E. BROWN, M.B.,
House-surgeon, Toronto General Hospital.

(Under the care of A. PRIMROSE, M.B., C.M. Edin., in the Toronto General Hospital.)

FRED. McCANN, æt. 12, was admitted to the Toronto General Hospital at 4 p.m., August 17th, 1892, suffering from a severe injury to the right thigh and knee. The following history was obtained: The boy had been running across the street-car track after a ball, and had not observed that a car was approaching; before the driver could bring the car to a standstill, the wheels had passed over the boy's thigh, immediately above the knee. He was at once taken to the hospital.

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*Presented at the Toronto Medical Society.

On admission the patient was in a condition of profound collapse; his face was pale, lips blanched, extremities cold, and although not unconscious, yet he was apparently quite indifferent to what was going on around him; manipulation of the injured limb did not cause pain. The pulse was almost imperceptible; in fact, it was impossible to count it, and the respirations were shallow. On examination of the limb, a large lacerated wound was found on the inner side of the thigh, extending five inches above the knee joint and about two inches below. The edges of the wound were separated, so that a large raw surface was exposed. At the bottom of the wound the bone lay bare, and fractured at a point two inches above the knee joint immediately above the condyles; the bone was splintered at this point, and a fragment of considerable size was separated from the shaft; this, however, was not detached from the soft parts. The muscles and connective tissue behind the femur and in the vicinity of the fracture were severely crushed, particularly the lower third of the vastus internus, and the finger could be readily passed in and around the broken bone; the main vessels, however, had evidently escaped injury, as the circulation was well maintained in the limb beyond. A condition which must be considered very unusual, if not unique, was found on the anterior aspect of the bone; the lower

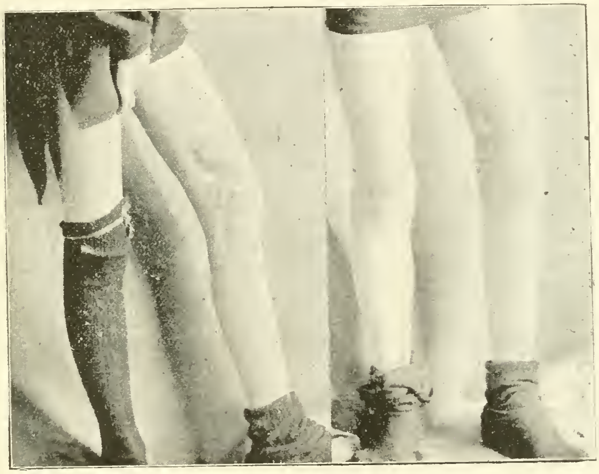

FIG. I. FIG. II.

fragment was completely denuded of its periosteum in front and in its upper part, and along with the periosteum the upper part of the synovial sac of the joint was stripped off the bone; this was observed as a fluctuating sac lying in the wound. The synovial sac of the knee joint had, in fact, been detached from its moorings, and had been partially dislocated outwards. Firm pressure was made upon this, and it was concluded eventually that, in all probability, the joint cavity had not been opened, as the fluid contained (presumably blood and serum) did not leak at any point when pressure was applied. The knee joint was apparently unopened, and the circulation in the limb, beyond the injury, was well maintained; therefore it was determined that an attempt should be made to save the limb.

Treatment. The patient's head was lowered, hot bottles were applied about the body, and a hypodermic injection of *m3* liq. strychniæ was administered.

The wound (from which there was considerable venous oozing) was flushed out with hot water, and subsequently with 1-4000 bichloride of mercury; three large drainage tubes were inserted, and a few points of silk suture introduced. An antiseptic dressing, consisting of moist bichloride gauze with absorbent cotton, was applied. An interrupted long splint, extending from the axilla to the foot, was applied, with extension.

The patient suffered extremely from shock. Two hours after admission respirations were 44, pulse 128. The temperature was not recorded. At 2 a.m. (ten hours after admission) the temperature was 99°, respirations 46, pulse 130; the patient being delirious. The boy's condition remained very unsatisfactory for some hours; his pulse was extremely weak, delirium continued, the temperature remained about normal, whilst the pulse rate fluctuated between 104 and 128, averaging throughout the twenty-four hours 120. Free stimulation was employed, the stimulants used being brandy and strychnine. He was given

R. Brandy, ℥i.
Liq. strychniæ, ♏i.
Tinct. digitalis, ♏iij.

administered every hour, and small quantities of milk at short intervals. The mixture of brandy, strychniæ, and digitalis was given hourly for the first eight hours, and subsequently every two hours. The temperature at 7 p.m. on the day after admission had risen to 100.4°, the pulse at that time being 124, and respirations 48. The strength of the pulse now began to improve, and the boy steadily regained strength. The wound was completely healed in a few weeks; the lacerated tissue came away as slough, and there was little or no suppuration. Firm union of the bone was attained, and the boy left the hospital twelve weeks after admission, there being movement at the knee joint, but limited in degree.

The present condition of the limb (eight months after the injury) is as follows: The amount of shortening is barely one inch; flexion and extension are restricted, the maximum amount of movement being through an angle of about 10°: when extended as far as possible, the limb is not quite straight, but is nearly so; an extensive cicatrix exists, marking the site of the original wound. This cicatrix measures seven and a half inches, extending upwards from a point two inches below the knee joint. At one point (two and a half inches above the joint), the cicatricial tissue is adherent to the bone beneath. The boy has no pain whatever, and walks well, though limping considerably, and still using a stick for support.

REMARKS BY DR. PRIMROSE. The peculiar interest of this case exists in the remarkable manner in which the synovial sac of the knee remained unopened. The severe crush to which the limb was subjected, as evidenced by the lacerated condition of the tissues on the inner and back parts of the bone, and the examination of the bone itself, makes it seem almost incredible that the joint could have escaped injury. One is inclined to doubt the accuracy of the history obtained as to the statement that the car wheel passed *over* the limb. In all probability, the wheel did not pass completely over it, but simply ran up on to the anterior aspect of the limb and then slipped off. This is the only possible way of explaining the fact that the knee joint and the tissues at the outer side of the limb, as well as the great vessels, escaped injury. The wheel evidently had stripped the periosteum off the bone, torn the quadriceps extensor muscles transversely, and dislocated outwards the synovial sac, without having severed its connection with the periosteum.

The condition of the boy's limb on admission to the hospital was one which presented considerable difficulty in determining the proper course of procedure in treatment; amputation had already been advised by two surgeons, both of them being men of good judgment. The reasons for the course adopted are stated in the history given above.

A CASE OF PNEUMO-HÆMATOTHORAX WITH PRESENTATION OF THE PATIENT.

By William Oldright, M.A., M.D.

IT is not my intention to present notes of this case from day to day, but to give a summary of the clinical history. E.J., aged 51, while stepping from one grain bin to another on the 29th of March, slipped, overbalanced, and fell about three feet, striking his side against the corner of a post, the point of contact being three and one-half inches below and posterior to the left nipple.

He came under my care on the 1st of April. His symptoms were pain and a feeling of distress in the left side, so increased by lying down that he had passed his nights in an armchair. Pulse about 100; temperature, 101°; respirations 28, and shallow; great weakness, œdema of the feet, urine not albuminous, sp. gr. 1020, violaceous odor, probably from diuretics, taken before I saw him. I examined the ribs; no crepitus, no pain on pressing dorsal and sternal extremities towards each other.

There has been swelling on the left side of the thorax, obliterating the intercostal depressions. Percussion from time to time has revealed patches of dullness extending generally as high as two or three inches above the nipple line; somewhat higher at first, especially anteriorly, than it is now. There is a space of about three inches square, the centre being three inches below and posterior to the nipple, over which hyperresonance existed, especially when lying down. This varied at different times; sometimes the resonance could be produced whilst the patient was either upright or recumbent on the right side; at others only in the latter position. To-day it was more expansive, especially on deep percussion.

The respiratory murmur has always been audible, though faint. The movements of the left thoracic wall were somewhat lessened.

The apex beat of the heart was at first loudest about one and one-half inches farther to the right than it normally should be, but this was only for a few days. The respirations have not exceeded 28.

The chief reasons for the diagnosis of hæmatothorax are the irregularity of the dullness, the presence of respiratory murmur, the fact that the apex beat has been for the greater portion of the time in the normal position, the infrequency of respirations, and, we may add, the weakness. The resonance was at one time so circumscribed and so superficial, especially when the chest wall was uppermost, as to lead to the conclusion that there was a slight wound of the visceral pleural covering admitting air, as well as causing hemorrhage.

To-day I introduced a hypodermic needle in the postero-lateral line, between the eighth and ninth ribs, and withdrew a few drops of sanguinous serum, which was aspirated with difficulty. Fine bubbles of air came with it. The length of the needle from the cutis inwards was one and one-fourth inches, so that it could not, I should judge, be more than one-half inch internal to the parietal pleura.

CASE OF PLACENTA PREVIA WITH TENDENCY TO POST-PARTUM HEMORRHAGE.

By William Crawford, M.B.,
Burk's Falls, Ont.

MRS. A——, mother of three healthy children, born at full term. I was called on the morning of March 23rd, 1893, and arrived about noon, and found her resting quietly and without pain. She told me that she would not have sent for me so early but that about 4 a.m. she noticed a considerable hemorrhage without any pain, and as that was unusual she sent for me. The hemorrhage had been repeated several times, but had then ceased. Friends informed me that her previous labors had always been hard ones, and followed by severe after-pains and excessive discharge.

I made an examination and found the os patulous, and about the size of a silver dollar. I found that occiput presented in first position. On introducing index finger of right hand into cervix, I found a marginal placênta previa, having lower margin detached, and placenta attached to posterior wall of uterus. Pregnancy being at full term, I thought it best to wait a while for labor to come on, since no active symptoms demanded interference, and I was ten miles from home, so could not leave. She had several weak and irregular pains in the afternoon, but at about 8 p.m. pains became more frequent and severe, and the hemorrhage commenced again. I still thought it best to wait a little, hoping that the head, by coming down, would lessen the hemorrhage; but by 9 p.m., hemorrhage becoming profuse and pains irregular and severe, I ruptured the membranes and exerted pressure on fundus with the left hand. This succeeded in stopping the hemorrhage, and increasing frequency and strength of pains. Labor now progressed normally, and a strong, healthy child was delivered at 11 p.m. If that had not stopped hemorrhage, I intended to separate placenta over area of unavoidable separation, after the method of Dr. Barnes. As is my custom, I kept my left hand on fundus, and as placenta did not come away I expressed it by Crédé's method in half an hour. Membranes were partly adherent; but by allowing them to come away of themselves and exerting no traction, the uterus was completely emptied. I still retained my hand on the uterus, to obtained good contraction before applying a bandage; but on lessening pressure I found, to my surprise, that the uterus enlarged under my hand, and the next pain expelled a considerable amount of bright red blood. I at once gave ʒi. fl. ext. ergot, and ordered *m*x. every hour, and got assistants and continued pressure on uterus, which would enlarge under any relaxation of pressure. I remained till 7 a.m. the following morning, and then found the uterus would remain contracted without pressure. Patient was then suffering from less pain and discharge than after any of her former labors.

Before leaving I put on a bandage, and underneath it an inverted saucer over the uterus, which was left there till next day.

Patient was very weak for a few days, but with stimulants and judicious nourishment she gradually made a good recovery, without any rise of temperature or other bad symptom. It seems to me that the cause in this case must have been either subinvolution of uterus, or chronic endometritis when pregnancy took place.

Such cases being rare, I hope it will be interesting to many of the readers of your valuable journal.

A CASE OF PURPURA FULMINARIS.

REPORTED BY R. B. NEVITT, B.A., M.D.

THE rarity of these dreadful cases of purpura, in which the disease pursues its fatal course with such fearful rapidity, induces me to relate the following brief history:

A.T., a healthy, rosy, round-cheeked boy eight months old, was full of life and activity, taking his food well, and enjoying the best of health. The father is now in good health, but some years ago had an extensive operation on the nasal bones successfully performed. The mother has always been in good health. The child is the youngest of six children, who have all been well with the exception of the various exanthemata. About two months ago one of the elder children had diphtheria.

The child had been well until 9 a.m., when it became dull and drowsy, and was evidently so sick that the mother, dreading an attack of diphtheria, sent for me. The drowsiness continued, the breathing became rapid, the skin cyanosed. the extremities cold. About eleven o'clock purpuric spots began to appear on the feet, wrists, and upper part of the thighs; later, they appeared on the forehead and scalp; some also were situated on the fingers and on the back between the shoulders. The spots were the usual dark purpuric spots, irregular in shape and size, not disappearing on pressure. There was one spot on the side of the tongue, one or two on the lips, and one on the palpebral conjunctiva.

The spots continued to appear in the various localities named, and some few on the chest and abdomen. The child continued to try to nurse; but was prevented by weakness and growing restlessness from sucking more than a short time. The cyanosis deepened, the breathlessness increased, and the child died at 2 p.m., after an illness of only five hours.

At the examination held twenty-four hours after death, the head was not examined. The thoracic and abdominal viscera appeared healthy and normal, with the exception of the kidneys, which had purpuric spots under the capsule, not in the gland tissue. The right suprarenal gland contained a large black clot of blood, which distended the hat-shaped gland. The bladder contained about two ounces of clear, limpid urine. The spleen was healthy and normal in appearance and size. There was a small supernumerary spleen dangling at the end of a long pedicle.

Progress of Medicine.

MEDICINE

IN CHARGE OF

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THE TREATMENT OF MYXŒDEMA.

At a recent meeting of the Clinical Society of London, Dr. Arthur Davies, Dr. Calvert, and Dr. Pasteur presented several patients who had been treated by internal administration of the thyroid gland itself, or by an extract made therefrom. The patients exhibited had, previous to treatment, presented all the characteristics and symptoms, physical as well as mental, of typical myxœdema. The improvement manifested in each case might fairly be called marvellous.

Within a short time of the commencement of treatment, the patients begin to lose the characteristic phenomena of the disease. The features lose their puffy and mask-like appearance, the hair begins to grow, the skin becomes soft and smooth, and the intellect brightens. These obvious indications of improved nutrition are accompanied by an increased discharge of urea, a very marked and often rapid loss of weight, and a general sense of improved health. The improvement is manifested with striking constancy whatever method of administration is adopted, whether by subcutaneous injection, as advocated by Murray of Newcastle; by feeding with the raw gland, as recommended by Dr. Hector Mackenzie; or by taking the freshly prepared extract of the gland by the mouth, as in the case of Dr. Pasteur's patient. Equally good results were also obtained by Dr. Calvert by giving the gland lightly fried. In all cases the result was the same, and the conclusion seems irresistible that the thyroid gland does impart to the blood something which neutralizes the tendency to myxœdematous degeneration, and even removes the latter when it is present.

It would appear that it is not so much the rapidity of the changes effected in the body as the quantity of the substance administered that is open to risk. In Dr. Pasteur's patient alarming symptoms of cardiac enfeeblement, with syncopal attacks and dyspnœa, were directly attributable to an overdose (a whole sheep's thyroid) on two or three occasions, and did not reproduce themselves after the dose had been sensibly diminished (20 to 30 minims of freshly prepared extract in infusion of cloves every third day). Dr. Ord referred to a case in which similar alarming symptoms had occurred as the result of overdosing.

On the whole, the most convenient form of administration is in the form of powders (prepared by desiccating a glycerin extract of the gland), or by giving the fresh extract by the mouth.—*American Journal of the Medical Sciences.*

PIPERAZINE IN THE TREATMENT OF STONE IN THE KIDNEY.

Dr. David D. Stewart, in *Therapeutic Gazette*, reports three cases in his usually careful manner. The urate of piperazine, which is said to be a neutral salt, is seven times more soluble than is the corresponding salt of lithium. Despite the affinity of this remedy for uric acid, and the extreme solubility of its urate, little can be expected from it in uratic chronic multiple arthritic enlargements, at least in the doses generally administered—fifteen grains daily. In much larger amounts, such as a drachm or two daily, exhibited over a continuous time, more promising results may be anticipated; whether, however, such doses will be tolerated without injury is yet to be determined. The present unfortunately high price of the drug prevents the determination of the question. In the first case, gravel, which had been a persistent and troublesome symptom for months, permanently disappeared. In the second case, which was one of undoubted pyelitis, the pus has almost entirely disappeared from the urine, being only ascertained by microscopic examination. In the third case, that of probable mulberry calculus, no benefit has been obtained—which fact is in accordance with what might be anticipated from the behaviour of this remedy with this salt of calcium, upon which it has no solvent action. The precise mode of action of piperazine is still obscure, although it is certain that it is beneficial in cases of gravel and stone.—*American Journal of the Medical Sciences.*

The Use of Benzosol in Diabetes Mellitus.

Benzosol or benzoyl-guaiacol, which has lately been introduced by Dr. Bougarts as a substitute for creasote and guaiacol, has recently been recommended at a very useful remedy in diabetes mellitus by Dr. Piatkowsky, of Cracow. It is administered in doses of one to three grammes per diem. According to a recent communication, at a meeting of the physicians at Prague, by Professor Jaksch, the sugar disappeared from the urine after the administration of benzosol for eight days in the case of a female patient aged fifty-six, who had 5-7 per cent. of sugar, but the patient died in consequence of a toxic enteritis with grave jaundice, which was attributed to the use of the remedy. On the other hand, it has been pointed out by a Vienna chemist that caution must be exercised with regard to the polarimetric examination of the urine in cases where benzosol has been administered, as the urine of persons who have taken this drug polarizes to the left, and therefore the polarimetric examinations of the urine of such persons, when it contains sugar, are misleading.—*The Lancet.*

A Successful Case of Pneumonectomy.

Dr. Lowson, of Hull, recently operated on a case of tuberculous disease of the lung by removing the right apex, to which the disease was limited. The patient bore the operation well, and was able to get up for a short time in the third week ; she was then eating well and had no pain. The operation was commenced by the removal of the anterior third of the second and third ribs, the parietal layer of the pleura was opened, and the apex of the lung was pulled out after separating a number of extensive adhesions ; the diseased apex was then transfixed with a needle and strong silk, firmly tied, and removed. The sudden development of pneumothorax gave very little trouble, and oxygen, which was at hand, was not needed. The respirations were never more than 44, and dropped in a day or two to 32, and soon after to 24 ; the pulse showed a similar elevation and decline. The highest temperature was 101.8° F.; this occurred in the second week, and lasted five or six days, with complete morning remissions. The wound was quite healed by the end of the third week. The after-history of this patient will be watched with much interest.—*British Medical Journal.*

DIABETES FOLLOWING INFLUENZA.

Drs. Hetherington and Brown record the case of a boy of fifteen who had influenza one month previously. For three weeks he had suffered from thirst, which became distressing, and was associated with the passage of large quantities of urine. He rapidly lost flesh and strength, and when seen presented an aspect suggestive of diabetes. The urine was typically diabetic, loaded with sugar, and of a specific gravity of 1040. He improved rapidly under strict dieting and half-grain doses of codeine. Nine days from commencement of treatment all sugar had disappeared from the urine. A similar case was reported in the *Lancet* for April, 1892 —*Lancet.*

BROMIDE OF STRONTIUM IN VOMITING.

Coronedi, according to the *Repertorie de Pharmacie*, October 10, 1892, has used this agent with great success for the relief of vomiting from various causes. Fifteen grains, before meals, relieve nausea more or less promptly; and this dose—thirty or forty-five grains a day—is efficacious even in the obstinate vomiting of pregnancy.

THERAPEUTICS

IN CHARGE OF

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TROPACOCAINE AS A LOCAL ANÆSTHETIC.

Dr. Hugenschmidt (*La Semaine Médicai*, February 3, 1893), confirms the results of Chadbourne's experiments with tropacocaine. The ingestion of one-third or two-thirds of a grain produced no appreciable effect on an adult. When two-thirds of a grain were injected rapidly into the region of the lower maxilla, vertigo, uneasiness about the heart, and a marked fall of blood pressure were observed within three minutes. The effect was transient, and in ten minutes the pulse returned to normal. Doses of one-third to two-thirds of a grain do not affect respiration, whereas it is easily affected by full doses of cocaine. The above doses produce no effect on the nervous system, whereas similar doses of cocaine often produce marked symptoms of cerebral anæmia. Tropacocaine exerts no influence on the vaso-motor system. Dr. Hugenschmidt believes that tropacocaine is likely to prove of great value as a local anæsthetic. He employed it as such in thirty-seven cases, never exceeding five-twelfths of a grain, usually in the following solution :

R. Tropacocaine......................gr. ij.
Distilled water.....................ʒj.
Sig.—Ten minims for an injection.

It is of the greatest importance that the injection should be made slowly. One-third of a grain was found sufficient to produce anæsthesia when the injection occupied fully one minute. With this dose no toxic symptoms were observed in the thirty-seven cases.

Dr. Hugenschmidt claims for tropacocaine the following advantages over cocaine :

(1) Being prepared synthetically, it is less liable to variation than cocaine which is obtained directly from the plant.

(2) In equal doses, consistent with the production of anæsthesia, tropacocaine is less toxic than cocaine, and exerts very little influence on the vital functions of the organism.

(3) Local anæsthesia is produced more rapidly with tropacocaine, and lasts the same time as that produced by cocaine.

(4) Tropacocaine being antiseptic, its solution can be kept unaltered for months, whereas solutions of cocaine have a tendency to undergo decomposition and lose their analgesic properties after four or five days.—*University Medical Magazine.*

Salol in the Stomach and Intestine.

Dr. Paul Cornet (*Le Progrès Médical*, 1892, No. 44) performed a series of experiments on dogs to ascertain the changes which salol undergoes in the alimentary canal. He found that in an hour the decomposition of the drug was exclusively in the intestine, but this was not the case at the end of two and a half to three and a quarter hours after the ingestion of thirty or forty-five grains of salol. Lépine, by the microscope, and the author by analysis, both detected undecomposed salol in the fæces and in the intestine. The detection of salicylic acid in the stomach, and the arguments of Papuli, Renzi, Réale, and Gley, weaken the theory that the decomposition of salol is effected entirely by the pancreatic juice. The slow decomposition of salol in the stomach impairs its value in determining the motor power of the stomach, as suggested by Sievers and Ewald.

The author draws the following conclusions from his experiments: (1) Salol is at first decomposed in the intestine. (2) Salicylic acid is found in the stomach two or three hours after the ingestion of thirty to forty-five grains. (3) Salol is not completely decomposed in the intestine, for some is detected in the fæces.—*University Medical Magazine.*

RULES FOR THE ADMINISTRATION OF COCAINE.

Dr. Magitot, in the *Repertorie de Pharmacie*, formulates the following rules which should govern the employment of cocaine as an anæsthetic:

(1) The dose of cocaine injected should be appropriate to the extent of the surface desired to render insensitive. It should not exceed in any case one grain to one and three-quarter grains. Each dose should be restricted in large surfaces.

(2) Cocaine should never be employed in cases of heart disease, in chronic affections of the respiratory apparatus, or in nervous subjects; and this exclusion applies also to other anæsthetics.

(3) Cocaine should be injected into the interior and not under the derm of the mucous membrane of the skin. This is the intradermic method of reclus, which should be substituted for the hypodermic method. By this means the introduction of a substance into the vein is avoided, and the risk of accidents minimized.

(4) The injections should always be practised upon the subject in a recumbent position, and he should only be raised when the operation is to be performed upon the head and mouth, and then only after anæsthesia is complete.

(5) The cocaine should be absolutely pure, since, as pointed out by Laborde, its mixture with other alkalies forms highly poisonous compounds.

(6) Cocaine should be injected in divided doses, with a few minutes' interval. This method of "fractional injection" renders it possible to guard against the production of sudden symptoms of poisoning.—*New York Medical Times.*

STERILIZATION OF HYPODERMIC SOLUTIONS.

D. Marinucci has found large numbers of living germs, some of a harmful nature, in freshly prepared hypodermic solutions of strychnine sulphate, morphine hydrochlorate, atropine sulphate, eserine, etc. Sterilization by heat did not affect the therapeutic value of strychnine and quinine, but partly checked the action of morphine and atropine. Eserine and atropine solutions are said to be best prepared with a solution of corrosive subimate (1 in 1,000), which renders them aseptic without modifying their therapeutic properties. Morphine solution could not be sterilized without injuriously affecting the properties of the alkaloid. It is suggested that all such solutions should be renewed every fourteen days.—*Cent. f. Bakt.*, xii., 282, through *Pharm. Journal.*

ANTISPASMIN.

This is a preparation consisting of one molecule narceine sodium combined with three molecules sodium salicylate. Merck describes it as a whitish, slightly hygroscopic powder, readily soluble in water. It contains about 50 per cent. narceine, has an alkaline reaction, and absorbs carbonic acid from the air, with partial separation of narceine. It is considered that the purity of the narceine in this preparation and its solubility will remove some of the chief objections to the use of narceine in medicine, and admit of the favorable results expected by Bernard (*Compt. Rend.*, 1862, 406) being realized. It has been tried at Berne by the late Professor Demme, who considered it to be an excellent hypnotic and sedative, especially suited for the relief of cramp, and hence the name adopted for it. It may be administered without danger in doses of $\frac{1}{10}$ grain to 1.5 grains, and appears to be well adapted for use in the treatment of diseases in children.—*Bericht*, 1892, p. 40.

THE TREATMENT OF RAYNAUD'S DISEASE BY INJECTION OF NITRO-GLYCERINE.

M. Cates treated a patient suffering from Raynaud's disease when there was ulceration of the fingers, elbows, and insteps. He injected, to commence with, $\frac{1}{100}$ of a grain of nitro-glycerine three times a day, and gradually went up to $\frac{1}{50}$ of a grain three times a day. Relief was rapid. The ulcers healed; the pains, which had been severe, disappeared; and the patient was soon able to sleep, something he had not previously been able to do.—*University Medical Magazine.*

THE TREATMENT OF THE GREEN DIARRHŒA OF CHILDREN.

Ernest Luton, in *La Revue Mensuelle des Maladies de L'Énfance*, recommends very highly the method of treatment known as the water diet. It consists in the cutting off of all forms of diet, and the replacing of the milk in the bottle with boiled water. This treatment gives the most gratifying results.—*Bulletin Général de Thérapeutique.* J.A.A.

Treatment for the Itching of Urticaria.

Dr. Bourdeaux has used equal parts of liquor calcis, aqua laurocerasi, and glycerini with great success in the treatment of the itching of urticaria, and even of the itching of other skin disorders. He sops the itching parts well with it, then covers with absorbent cotton, without wiping. The relief is almost immediate.—*Rev. de Clin. et de Thér.* J.A.A.

An Agreeable Purgative for Children.

The following purgative is to be taken in teaspoonful doses: Emulsionize 15 grammes of castor oil with the yolk of one egg; add to this 60 grammes of an infusion of coffee and 20 grammes of sugar.—*Bulletin Général de Thérapeutique.* J.A.A.

Nitro-Glycerine.

In certain conditions the action of nitro-glycerine or glonoin is marvellous. When a powerful stimulant is indicated, its universality of action distinguishes it from all others; and if given more freely than is necessary for the exertion of its influence in this way, it not only operates on the brain especially, but does so with great energy. In favor of nitro-glycerine is its smallness of bulk; and as an anti-spasmodic and nervous stimulant, it has no peer amongst medicines of that class. In a case of emergency, one drop of a one per cent. solution may be placed on the tongue or inside the upper lip when the patient is in an unconscious condition. Its effects are immediately observed, by its property of relieving spasm, which it certainly does to a remarkable degree. Its effects are immediately manifested by the capillaries carrying more blood than they had done before its administration; the radial pulsation grows fuller, freer, and more rapid; and there appears an increased warmth of the extremities. An overdose of it produces giddiness, weakened vision, headache, with throbbing in the temples, a sense of weariness, sleepiness, and severe pain in the cardiac region, with unusual trembling. Since the introduction of nitro-glycerine in therapeutics, I have not had an opportunity of testing its virtues in puerperal eclampsia; although my observations of its *modus operandi* as a nervous stimulant and a remedy in some other affections, especially those of a spasmodic character, have been quite satisfactory.—*Times and Register.*

OBSTETRICS

IN CHARGE OF

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HYSTERECTOMY PERFORMED FIVE DAYS AFTER LABOR FOR PUERPERAL METRITIS.

I offer the following contribution under the conviction that a certain percentage of cases of "puerperal fever" tending to run a fatal course could be rescued by a timely radical operation, cleansing the peritoneum, removing ovaries and tubes or uterus; in other words, wherever a local septic focus exists which cannot be reached *per vaginam*, attacking it *per abdomen*.

My patient, Mrs. S., came to term, giving birth to a normal healthy living boy, December 8, 1891. She was a primipara, aged thirty-four, in excellent health. The labor was natural, and but few examinations were made, and each time after scrubbing hands and nails, both before and after the examination. There was no hemorrhage, the placenta came away under gentle expression in about fifteen minutes, and I could detect no tear on careful inspection of the genitals within as well as outside. Her condition remained normal until seventy-two hours after labor, when when she was seized with a severe chill, lasting over an hour. I saw her between three and four hours later, when the temperature was 104·5° F. and the pulse 120; she had an anxious, collapsed expression. There was no abdominal pain or nausea, but much headache; the abdomen was flat. The lochia was suppressed to a slight foul, odorous discharge. Tenderness on pressure was marked; she screamed upon pressure on the uterus. My first efforts at treatment were directed toward washing out the uterus with the long point of an alpha syringe, using warm carbolized water. I also ordered at once large doses of sulphate of quinine, forty grains in the day, and phenacetine in ten-grain doses every few hours, as soon as the temperature rose above 103° F. I hastened, in addition, to evacuate the intestinal tract by giving her five grains of calomel and soda. Hot mush poultices were kept constantly on the abdomen. In this way I secured some temporary relief, but, as I now fear, at the expense of masking some of the important symptoms necessary to a correct estimate of her condition.

On the following day (Sunday, the fourth day), Dr. T. B. Steele was called in consultation. The general condition was manifestly worse, the uterus furnishing a scant, fœtid, black discharge, and the tenderness increased. Specular examination showed a large, congested, blackish-blue cervix covered with grayish, diphtheritic exudate, closely adherent; this could not be detached *en masse*, but broke off, leaving a bleeding surface; this deposit extended down into the vagina and involved the labia. The temperature was 105°, pulse 130, prostration extreme, facies anxious and drawn, tongue coated and dry, thirst intense, abdomen tympanitic, no vomiting, frequent urination. She had had several copious evacuations from the calomel. The diphtheritic masses were removed with peroxide of hydrogen applied within the uterus as well as in the vagina, and the uterus was again washed out with warm carbolized water, and phenacetine was continued. A fatal issue seemed certain under the present condition, and we therefore decided, on account of her rapidly failing condition, to telegraph for Dr. H. A. Kelly, of the Johns Hopkins Hospital, to come prepared to perform a hysterectomy.

Dr. Kelly responded at once, arriving the following day (Monday) at one o'clock, and, finding her condition as described, in addition to a septic pleurisy under way, while the patient appeared to be approaching collapse, performed abdominal hysterectomy.

Operation. An incision was made in the linea alba fifteen centimetres (six inches) in length, and the distended intestines, which were embarrassing throughout the operation, were held to one side by pieces of sterilized gauze, while the large, softish, putty-like, deeply injected uterus was lifted out of the abdomen and a temporary rubber ligature thrown around its cervical end, and the uterus and ovaries and tubes were at once cut away above the ligature, thus removing the whole septic body with the enlarged ovaries and tubes. Extreme care was taken to prevent any fluid from the uterus escaping on to the peritoneum while cutting the organ away. The stump of the cervix was thoroughly burned out with a Paquelin cautery managed by Dr. Steele, and then sewed together in two layers—a lower of buried sutures and an upper of symperitoneal silk sutures; this stump was then suspended in the lower angle between the lips of the incision where the parietal peritoneum on all sides was attached to the peritoneum of the stump, thus secluding it from the abdominal cavity, closed down to the stump without drainage, and avoiding the more dangerous method of leaving the constricting ligature on the stump to slough off later.

The symperitoneal ligatures were left long for the purpose of suspending the stump, and avoiding a tendency to drag back into the abdomen.

A small opening was left in the lower angle of the skin wound leading down to the stump, and was packed with iodoform gauze. There was no peritonitis and there were no adhesions; the right ligament was distended by bright red cords, looking like lymph vessels, as large as the little finger.

Both ovaries were swollen. The uterus was large and everywhere infiltrated, containing necrotic areas in its substance where the muscular tissue was disintegrated.

After the operation. Following the removal of this great septic focus, there was an immediate marked improvement; the temperature became normal within an hour, and the pulse dropped to 120. The pulse varied from 120 to 130 for three days, and the temperature 100° to 102·5°.

Subsequently there was no vomiting, no tympany, and no pain; there were no chills until five days after operation, when a stitch-hole abscess formed, with severe local pain and elevation of temperature and pulse (150); this discharged on the eighth day, with relief of the symptoms. At this time all abdominal stitches were removed. Her subsequent recovery was interrupted in the fourth week by phlebitis, beginning in the left ankle, extending up to the body, involving the right leg on the following day. In three to four weeks the suspensory ligature came away, and without any further drawbacks she recovered complete health and resumed all household duties in four months. To-day, just a year after the operation, she is in the best of health, with no sequel save a small abscess which formed in the abdominal cavity and healed.—*Dr. Goldsborough in N. Y. Medical Journal.*

SYMPHYSIOTOMY.

Pinard, of Paris, furnishes one of the most interesting contributions on this subject. During a clinical lecture, delivered Dec. 7th, 1892, he presented thirteen patients on whom he had performed the operation during the previous year (*London Lancet*). The thirteen mothers, representing all his cases, were well. They had no urinary troubles, nor any difficulty in standing. All the children were born alive, but three died subsequently on the first, second, and third days respectively.

Pinard's method of operating is somewhat different from that of Morisani, described in the February number of THE PRACTITIONER. The Italian school (including Morisani) use a very small incision, and make a subcutaneous division of the symphysis with a Galbiati knife. Pinard, on the other hand, makes a free median incision 8 cm. (3.15 inches) long, stopping immediately above the clitoris. He then separates the recti muscles, and pushes the index finger into the pre-vesical cavity in order to protect the bladder by its dorsal aspect. He then divides the symphysis from above downwards and before backwards. In doing this he cuts through all the fibres of the subpubic ligament, the index finger in the pre-vesical cavity being the guide from the time that the probe point of the bistoury strikes it above until the last fibres of the subpubic ligament are divided. Before this ligament is divided he takes the precaution to introduce a sound into the urethra, so as to push it downward and laterally out of the way of injury He then attacks the ligament "by small cuts, as if cutting it fibre by fibre." This ought to allow a separation of 4 cm. (1½ inches) when the thighs are carefully abducted. During the extraction of the child the separation at the symphysis may reach, but should not exceed, 7 cm. (2¾ inches). After the delivery of the placenta the symphyses are brought together ; four deep and four superficial sutures are used, and left in for eight days. An ordinary binder very firm on the pelvic region, or a plaster bandage, should then be applied. Pinard, in his hospital practice, uses a special bed. Full particulars of Pinard's methods may be found in the *London Lancet*, Feb. 18, 1893.

THE EFFECT OF PURGATIVES ADMINISTERED TO THE MOTHER UPON THE NURSING INFANT.

At a recent meeting of the Toronto Medical Society, Dr. Oldright referred to the effects of such purgatives as sulphate of magnesium on nursing infants when administered to mothers. In the English *Practitioner* for March, 1893, Gow reports his experience in connection with such use of purgatives. The drugs used were aloes, senna, cascara sagrada, and sulphate of magnesium. He did not find that senna, cascara, or aloes, when given to the mother, had any effect upon the infant ; but the sulphate of magnesium frequently caused looseness of the bowels in the babe. The editor of the *American Journal of the Medical Sciences*, in commenting, says that, according to his experience, the salts will sometimes act more promptly on the intestines of the child than on those of the mother. He has, however, had a similar experience with other drugs, notably aloes. In my practice, I have frequently found that the mag. sulph. acts on the child; but when I think watery catharsis is urgently needed by the mother, I do not withhold the salts on that account. In obstinate constipation, I have found rhubarb and salts act on the child before they affected the mother ; but aloes has seemed to me much less likely to affect the child, while it is probably the best remedy for this condition during the puerperal period, especially when there is a sluggishness of the rectum, with a tendency to hemorrhoids.—A.H.W.

SORE NIPPLES.

Ichthyol, 50 per cent. in lanolin, is said to be a good application.—Hermann (*Centralblat fur Gynakologie*).—*American Journal of the Medical Sciences.*

THE TREATMENT OF ALBUMINURIA GRAVIDARUM.

Jaccoud, of Paris (*La Semaine Médicale*, February 10th, 1893), places pregnant women, as soon as they have shown signs of albuminuria, upon an exclusive milk diet, and continues it until labor has taken place, even though the albumin disappears from the urine. He examines the urine at least once a week. If it shows no other change than the presence of a certain quantity ot albumin, he prescribes the daily inhalation of oxygen, using at least thirty litres in the twenty-four hours. If the urea excreted is below normal, the quantity of oxygen is increased to twice or three times this amount. The patient should be carefully protected from cold, and should uræmic symptoms appear he resorts to phlebotomy.

Jaccoud further insists on the systematic use of milk by all pregnant women to prevent the occurrence of albuminuria. He directs them to commence with two pints a day, gradually increasing to three pints, until the end of the sixth month, after which two quarts daily should be taken. After labor the quantity is gradually decreased during the following six weeks.—*University Medical Magazine.*

THE USE OF PURGATIVES IN NURSING WOMEN.

In the March number of the *Practitioner*, Dr. William J. Gow alludes to a popular impression that purgatives administered to a nursing woman often lead to disturbances of the suckling's bowels, gives a condensed account of his own experiments with several of the ordinary purgatives, and expresses his conclusion that magnesium sulphate administered to a nursing woman frequently causes looseness in the child, while senna, cascara sagrada, and aloes rarely have that effect.—*New York Medical Journal.*

INTRA-UTERINE INJECTIONS OF TINCTURE OF IRON.

Eichhalz (*Der Frauenarzt*) makes some remarks upon the fatal case of Dr. Pletzer, following intra-uterine injections of tincture of iron. He condemns the method in general, but more especially when so dangerous a drug as tincture of iron is used. Chrobak alone has collected eighteen cases of death resulting from the injection of this agent.—*Alloway, in Montreal Medical Journal.*

GYNECOLOGY

IN CHARGE OF

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Two Fœtuses Removed from the Peritoneal Cavity at one Operation.

Truth is stranger than fiction. I have here two fœtuses at about the same stage of extra-uterine development, removed from the abdomen by one operation. They were apparently about four months old when they perished. The condition was complicated by a right hæmatosalpinx and a left hydrosalpinx.

Mrs. P.G., aged 42, married 25 years, 8 children, youngest 12 years.

Seven years ago went two weeks over her time; then, October 23rd, 1885, had a slight flow of blood, and was taken with most severe cramping pains in the lower abdomen, recurring again and again. Was in bed until December 10th; then got up and went to the office of Dr. W. H. Byford, who sent her back to bed for two weeks longer. Called on Dr. King, who prescribed ergot, and caused the expulsion of something from the uterus.

Five years ago had a similar attack, commencing with cramps and fainting. The late Dr. J. S. Knox diagnosed a pelvic hæmatocele. Has been treating for diseased appendages almost ever since. Three months ago she had an attack of pelvic peritonitis, with bulging in the cul-de-sac of Douglas. I apparently cured the attack by drawing off about five ounces of serum from the cul-de-sac.

Abdominal section, February 21st, 1893, at the Woman's Hospital, assisted by Drs. T. J. Binkley and Marie White. Found the uterus and appendages matted together in a conglomerated mass the size of two large fists, with intestines adherent over them. Came first upon a hæmatosalpinx on the right side, which burst and let out about four ounces of a bloody fluid. I then came upon a membranous sac adherent in the pelvis, containing a fœtus with bones well preserved. After tying off this side I found almost exactly the same thing on the left side, except that the tube contained a watery fluid. The adhesions were so firm that a portion of the cyst of the right ovary had to be left on an adherent loop of intestine, and the fœtal sac of the right side had to be ligatured, and a portion left on the rectum to which it was adherent. No definite placenta was found. The operation was quite a bloody one throughout. Drainage for 36 hours. Unusually smooth recovery, temperature remaining below 100° F.

throughout, excepting a temporary rise during the second week from a superficial stitch hole abscess in the unusually fat abdominal walls.

This is another of the many cases that are being discovered in which extra-uterine pregnancy has not killed the patient. It is the second patient I have had with two tubal pregnancies, none of which produced any apparent dangerous symptoms. The condition has by no means the mortality attached to it that many eminent surgeons would have us believe. I know of no other case in which both tubes, each with a fœtus, have been removed at the same operation. The history, together with the mummified appearance of the fœtuses, would make it quite probable that one of the conceptions occurred seven years ago, and the other five years ago, that each had caused a pelvic hæmatocele, had become encysted, and remained to trouble the patient ever since, but not to kill her.—*Henry J. Byford, in the Chicago Clinical Review.*

Constipation and its Treatment by Large Enemata of Oil.

Prof. Heiner, in an article in the *Beliner Medicinische Wochenschrift*, discusses this question, and recommends the large enemata of oil as the curative agent in such cases. He divided constipation into two classes, the "atonic" and the "spastic." The first he considered to be the result of insufficient and slow peristalsis, but the latter he considered to be due to spastic contraction of the colon. This condition he considered most frequently found in nervous persons, neurasthenics, hypochondriacs, and women with pelvic troubles. Firm masses of fæces are kept back by sections of intestine that remain in a state of firm contraction, and hinder the onward movement of the fæces. The evacuations in such cases are characteristic. They are thin, of small calibre, and of moderate quantity. Sometimes the fæcal matter is small and knobbed. He considered massage in spastic constipation as useless, and he also considered faradization and drastic purgatives as equally useless. For such cases he advised, as the best treatment, a large enemata of oil. With the patient in the dorsal position, twelve to fifteen ounces of oil is injected. The pelvis should be raised as high as convenient; the oil should be warmed and emptied into the bowel. The administration should occupy about fifteen minutes. The enemata should be repeated daily until a favorable result is obtained. After this a smaller quantity of oil will be sufficient.

Sometimes the oil produces an irritation at the sphincter. If the best olive oil is used, however, this is not likely to occur. The oil is supposed to act by softening and loosening fæcal masses, by soothing and diminishing irritation, by exciting peristaltic action, by preventing reabsorption of fæcal constituents and all their decomposition products.—*Medical Press and Circular.*

CANCER OF THE BREAST IN A MALE.

Though not strictly gynecological, the following case is one of interest: A man aged sixty was admitted into the Sheffield Infirmary, under the care of Mr. Arthur Jackson. Three sisters had swellings in the neck and arms; one sister had her right arm amputated for bone disease; another died of phthisis at the age of eighteen. Both parents lived to old age. Twelve months ago detected hard tumor in the right breast, free from pain, even on pressure, and movable. It increased in size. Tumors in the axilla began to develop, and they were also noticed under the right clavicle. Loss of appetite and emaciation, together with pains in the head, now set in. At the last report there was a tumor about the size of an orange in the right mammary region, nodulated on the surface; hard and movable glands in the axilla were enlarged, and under the lower border of the pectoralis major muscle and right clavicle enlarged glands were to be found. No operative treatment was advised owing to the evident extension of the disease.

INJECTION OF SALT SOLUTION INTO THE VEINS FOR SEVERE HEMORRHAGE.

At an operation in Guy's Hospital recently, while Mr. Davie Colley was performing the operation of amputation of the hip-joint, a branch of the profunda artery, or perhaps the profunda itself, bled freely, and the patient lost a great deal of blood. Mr. Colley's house surgeon injected into the median cephalic vein of the patient's right arm thirty ounces of a solution of common salt, sixty grains to the ounce. About two inches of the vein was at first exposed, a ligature placed around the lower part of the piece exposed, while a hollow needle attached to a tube was introduced into the vessel and tied in, and the injection gradually given.

In this case the procedure seemed to have a very good effect. A procedure that can be rapidly applied without too much danger to cases of excessive loss of blood during the removal of adherent abdominal tumors should be kept in mind by the abdominal surgeon. Many of these cases after the complete removal of a tumor, the pedicle of which can only be reached near the end of the operation, if they can be kept alive by such a ready method as that offered by the injection of salt into the veins, would be likely to make a permanent recovery.—*British Medical Journal.*

CANCER OF THE COLON REMOVED IN COLOTOMY.

Mr. Herbert Allingham read notes of a case suffering from cancer of the colon. The abdomen was much distended; no growth could be felt in the rectum. The incision made was that made for left inguino-colotomy, but obstruction was found to be due to a malignant stricture of the sigmoid flexure. The growth, with about fifteen inches of the intestine, was pulled through the inguino-incision and fixed outside the abdomen; the intestine was then incised. Ten days later the author's spike clamp was applied to the protruding intestine and the cancer and the mass were removed, weighing, in all, fourteen and one-half ounces. The clamp was left on for thirty-six hours, and was then removed. There was not the slightest bleeding. All was healed in about fourteen days, and there was no prolapse through the incision. Although the sigmoid flexure was twisted, the two sides of the bowel above and below the growth looked exactly the same size, owing, no doubt, to the emptying of the intestine by its traction through the walls of the incision. It was difficult to tell which was the upper end. Resection was considered inadvisable, owing to the unfavorable condition of the patient.—*British Medical Journal.*

ABSCESS BENEATH DIAPHRAGM WITH GASTRIC ULCER.

At a meeeting of the Clinical Society of London, held on the 13th of January, 1893, Drs. Penrose and Dickinson reported a case of abscess beneath the diaphragm in connection with perforating gastric ulcer.

The paper was based upon the notes of ten cases in which perforation of the stomach had resulted in the formation of an abscess confined to the upper part of the abdominal cavity. Most of the cases gave hyper-resonance on percussion, amphoric breathing, and the bell-note over an area more or less confined to the epigastrium and the left hypochondrium. There was evidence of compression, either with or without pleural effusion, at the base of the left lung. The heart's apex was generally, to a slight extent, displaced. The diagnosis of the cases was usually not very difficult; but certain thoracic complications, such as empyema, pyo-pneumothorax, or pulmonary abscess, were liable to arise, and might be very misleading. The limits of the cavity were generally found to be above the arch of the diaphragm; on the right, the falciform ligament of the liver; on the left, the cardiac end of the stomach, the spleen, and the diaphragm, with a deep pocket of the abscess extending backwards between these organs; in front, the anterior abdominal wall; behind and below, the left lobe of the liver.

In the discussion, the question came up as to whether any case of perforation had been noted in which an abscess had formed and a subsequent perforation and evacuation of the abscess contents back into the stomach had taken place and been followed by recovery. If so, cases of peritonitis with this termination could be readily understood.

Dr. West reported a case in which the symptoms pointed to pleurisy. The patient, however, referred the pain to the abdomen. The case was supposed to be one of empyema, but it proved to be an abscess consequent on the rupture of the gastric ulcer. There had been no symptoms at all to point to the presence of a gastric ulcer until the fatal pain and suppuration came on. He referred to the case of a man who was admitted with a swelling in the left loin ; it was elastic and tense, without resonance. It was opened and contained a large amount of fæcal pus. The patient died unrelieved by the operation, and at the *post mortem* the abscess was found to originate in the perforation of a gastric ulcer.

Dr. Dickinson, in reply, stated that he could not admit that the diagnosis was as difficult as some of the speakers led them to suppose. A sudden attack of peritonitis in a chlorotic girl was almost certain to be consecutive to rupture of a gastric ulcer, and laparotomy ought to be resorted to at once unless there was reason to suppose that the peritonitis was circumscribed.—*Medical Press and Circular.*

Hemorrhage from Uterus.

At the meeting of the British Gynecological Society, Dr. Savage read a paper on hemorrhage from the uterus. He divided the subject into two classes; first, those in which the hemorrhage was associated directly with the uterus itself; and, secondly, those in which the hemorrhage was associated with some condition outside the uterus. In speaking of myomata and the various remedies in vogue, he considered electrolysis a dream of the past. He thought operative interference for hemorrhage, namely, the operation of laparotomy, was the best operation. Should this fail, hysterectomy would become necessary. In the second class of cases above mentioned, he considered the causes external to the uterus, such as the presence of cystomata, dermoids, extra-uterine gestation, chronic inflammatory diseases of the appendages.—*Medical Press.*

SURGERY

IN CHARGE OF

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Dupuytren's Finger Contraction.

The accepted theory of the cause of Dupuytren's contraction is that it is of constitutional origin; and while gout and rheumatism are the essential elements in many persons who suffer deformity from disease of the palmar fascia, I am impressed with the belief that syphilis may act as a primary cause also.

I am driven to this opinion by one case which was recently under my care ; and, while one swallow doesn't make a summer, the evidence in this instance is *prima facie*, and I trust that I may make it convincing to you. In the family to which this lady belonged, as far back as history goes, there has never been a case of gouty diathesis or rheumatic fever. I mean that neither disease with these folk is hereditary. It has been supposed hitherto that women were exempt from contractura palmaris; however, as there are exceptions to all rules, so it is on this occasion. The lady was of good social grade, sixty-seven years of age; and when I saw her first her fingers were permanently bent. I was consulted with reference to her general health, and also if it were possible to remedy the existing deformity. While there was no pain connected with the contraction, she was annoyed and depressed by constantly recurring inconveniences. To comb the hair, to change the dress, to lift a weight, to write—in fact, to perform any manual duty—was a burden, if not an impossibility. The thumb on the right hand was drawn to the middle of the palm; motion was only possible between the first and second phalanges.

The fascia of the palm and the fibrous tissue of the inside of the fingers of this hand were diseased in a somewhat higher degree than on the left. But she was bad enough off in both members, so that life was hardly worth living. She frequently wished the Gordian knot might be cut, and her desires were gratified in less than a couple of moons after my first visit by an attack of acute pneumonitis, which quickly did the work for her.

The disease began in the thumb and extended gradually. After a varying interval, the precise time she couldn't remember, the disease attacked the little finger of her left hand, and by degrees the ring and other fingers became involved. This patient in her earlier years enjoyed robust health; was never troubled with either rheumatism or gout. As a widow she had a small estate, which was inducement enough to attract a progressive gentleman many years her junior. He informed me that in an immoral moment he contracted syphilis, and, as he expressed it, "burnt the old woman." Treatment was given her by the family physician in complete ignorance to her of the real nature of the malady. She passed through the several stages, the disease being pretty well kept in abeyance. Seven years were passed from the initial lesion of the syphilis before the least sign of contraction of the palmar fascia became manifest.

The morbid process, as before remarked, began in the thumb by a little weakness, which was rapidly followed by bending in all the fingers of the right hand.

This malady being of obscure etiology, can we not make a diagnosis as to cause by exclusion? She had no gouty process, no rheumatic diathesis. She did not remember ever to have had an inflammation, either acute or chronic, in the palmar aspect of the hand, and it was only after the nutritive processes were much interfered with, and sequently the nervous system, by the "lues venerea" that contraction began to exhibit itself.

Processes to a certain extent may be described, but ultimate causes are sometimes beyond the reach of the subtlest intellect; and, as the problem of palmaris contractura has not been settled, we may reasonably suppose that the specific effects of syphilis may be a factor, just as that which has been attributed to gout and rheumatism. I cannot divine any other solution. The case is novel: first, in its occurring in a female, which is rare; secondly, that the thumbs were contracted. Both Dupuytren and Malgaigne say they never saw contraction of the thumb.

A moderate permanent bending of the fingers of both hands is frequently seen in many old persons, men and women, especially laborers; they are unable to extend the fingers completely.

With advancing age the adipose masses between the linea mensalis and the flexion-furrow, corresponding to the metacarpal articulations of the fingers, disappear regularly, and contraction of the palmar fascia results; but to these folk it is of little moment, and they plod on till the millennium without asking for relief.

Contraction in these instances may be due to shrinking of the surface of the aponeurosis palmaris; but to make a distinction between this and of the fibres that ascend from it to the integument is subtle and useless. It is evident that even in cases where the "brides" first begin to shrink, the permanent bent state of the hand will be followed by shortening of the palmar fascia itself.

My object is merely to bring forward, as possible, another etiological factor for Dupuytren's finger contraction, apart from gout and rheumatism, which have always been considered and doubtless are the fount and origin of the malady with the majority of the unfortunates.

Syphilis, which is the most striking illustration of a cachexia, was outwardly apparent, and as empiricism has declared that it is useless to treat syphilitic sequelæ without directly treating the syphilis my therapeutics were tied to hæmatics and mercurials, with the belief that by curing the anæmia she might bear surgical interference for the relief of deformity after the manner of Madelung, of Bonn, with whose operation you may be familiar.—*Steele Bailey, M.D., in American Practitioner and News.*

TREPHINING FOR INTRACRANIAL HEMORRHAGE.

Elliot (*Boston Medical and Surgical Journal*, cxxviii., No. 6, p. 137) has reported a case of hemorrhage from the middle meningeal artery and one of subdural hemorrhage, in both of which relief was afforded by trephining, controlling the bleeding and removing the clots. In the first case, the patient had fallen a distance of twelve feet upon his head. Consciousness was lost and the pulse became abnormally slow. The pupils failed to respond to light, and the right was dilated. Convulsive movements occurred, and coma set in, with stertorous breathing. No fracture of the skull was appreciable until the scalp had been reflected, when a linear fracture was found, extending from the parietal eminence down to the base of the skull. On trephining, without anæsthesia, an extra-dural clot, as large as a small fist, was found, and the meningeal artery was seen spurting in the trephine opening. The vessel was ligated by passing a curved needle through the dura, and the clot was removed. There was a deep indentation in the brain, in which the blood rapidly accumulated until it was packed with gauze. The frequency of the pulse increased from 40 to 100 during the course of the operation, and the patient became sensitive to pain, and moved his arms and legs. On the second day intelligence began to return. The wound healed rapidly and recovery was complete. The second patient was kicked by a horse, and was unconscious for about ten minutes. When seen, three hours later, consciousness had returned, but there was difficulty in speech. The protruded tongue deviated to the left. There was a compound fracture of the skull, two and a half inches above the ear, running upward and backward for two and a quarter inches. The depression was an inch wide and three-quarters of an inch deep. The skull was trephined, and the depressed fragments of bone removed. The dura appeared white and uninjured, but bulged into the wound and did not pulsate. Distinct fluctuation indicated the presence of fluid beneath. The dura was incised, and a quantity of blood was found in the arachnoid space. The hemorrhage continued until controlled by a deep packing of gauze. The patient made a prompt recovery. During convalescence there was slight paresis of the upper lip, and for several weeks the tongue deviated to the left.

Appendicitis.

As the relation of this disease to peritonitis becomes more generally and thoroughly appreciated, any information which assists us in recognizing it and treating it successfully becomes more and more welcome. Dr. H. H. Mudd (St. Louis Medical College), in a recent lecture, reported in the *International Clinics*, says: "The great majority of the cases which have come under our observation at the clinic have been during the presence of an acute attack, and have been operated upon, where operation was needed, during the acute process. The great majority of these cases have had a circumscribed pus cavity in the peritoneum. The experience of the past few years has taught me how to open these abscesses to a better purpose than formerly. I confess to have opened many abscesses in the right iliac fossa, in my earlier experience, without recognizing what I believe now to have been the true source of the abscess, viz., a suppurating appendix. We can open such abscesses by the ordinary incision for the removal of the appendix. Great care should be exercised not to break up the circumscribed adhesions which limit the pus cavity. If the general peritoneal cavity is opened, it should be carefully guarded, by sponges and by cleanliness, from infection. In all cases where the pus has been in any considerable quantity, I pack the cavity with iodoform gauze and establish free drainage through the external wound. The removal of the appendix becomes an incident in the operation for the relief of the abscess and the proper cleansing of the cavity. Unfortunately, the great majority of these cases still come to the surgeon after an abscess cavity has formed. It is then too late to make a clean and perfect laparotomy and close the wound for primary union. It is true that many cases of appendicitis recover without operative measures, the necessary treatment being rest in bed, attention to the bowels, and moderate diet—the abscess, if there be one, opening into the bowel and discharging through the intestine. Induration and thickening about the head of the colon do not necessarily imply suppuration, for not infrequently the inflammation subsides without the formation of an abscess. It must be admitted, even by the most conservative, that operative interference in these cases is very generally judicious, conservative, and efficient.

Cocaine in the Treatment of Acute Inflammation of the Middle Ear.

An unusually large proportion of the cases of la grippe occurring during the past few months have been complicated by middle ear trouble.

Dr. Wolfenstein, of Cleveland, has treated about one hundred cases of acute otitis media by instillations of a 5 per cent. cocaine solution. In an article which appeared several months ago, the *New York Medical Journal* says: Ninety-five per cent. of all his cases have escaped suppurative inflammation. His plan is to instil 5 or 6 drops of the cocaine solution as often as the pain returns. A single medication, the meatus being closed afterward with cotton, will, it is stated, cause pain to cease within ten or fifteen minutes, and the patient will be free from pain for several hours.

Ordinary cases of acute otitis media will subside under two or three days of treatment, the drops being instilled four or five times daily.

Inflammation of the naso-pharynx must be treated also.

The writer believes that hearing returns more rapidly, and that tinnitus is greatly diminished and ceases more promptly, after this cocaine treatment than after any other procedure. Excellent results have been obtained in cases of otitis media complicating scarlatina and diphtheria. Merck's crystallized hydrochloride of cocaine has been found most reliable. The author has never seen any toxic effects result from this method, although he has sometimes used much stronger solutions of cocaine.

Treatment of Compound Fractures.

The views held by prominent surgeons upon this subject have always special interest for the general practitioner, whether he is located in town or country.

Tréves (*Annals of Surgery*) expresses a preference for the following as a treatment for this class of fractures:

On admission the limb is covered with lint soaked in carbolic lotion, and is then cleaned with the greatest care; protruding bone is removed, and the broken ends are adjusted as soon as possible.

(1) Ordinary well-padded wooden splints are used, but under no circumstances is the limb secured to them by strapping. Instead of plaster he uses fine webbing and buckles. No bandages are ever applied. (2) The limb is kept throughout in the open air. (3) The wound itself is covered by a heap of antiseptic powder—iodoform or creolin, preferably the latter. This covering of powder keeps out bacteria without hindering the free escape of discharges, which form with the protecting powders a harmless scab or crust. The advantages claimed are: (1) Simplicity. (2) Avoidance of "meddling." (3) The damaged part is open to view.—*British Medical Journal.*

Vomiting in Chloroform Anæsthesia.

Passet (*Münch med. Woch.*, June 7, 1892) says that the chloroform vapor acting on the mucous membrane of the mouth produces a flow of saliva. This saliva is swallowed, and a certain part of the chloroform is thus conveyed into the stomach. The gastric mucous membrane is in this way irritated, and vomiting is set up. This increased flow of saliva at the beginning of the administration may be seen in animals, especially in cats, as well as in the human subject. For some time after the anæsthesia chloroform is exhaled with the breath, and even this may irritate the mucous membrane of the mouth in the same way, and with the same result. The action of chloroform upon the stomach varies in different individuals. The author adds that the only rational way of preventing the vomiting is to avoid the swallowing of chloroform, and that this may be done more easily than might appear by directing the patient to spit out the abundantly secreted saliva.—*British Medical Journal.*

LOSOPHAN.

Losophan may be looked upon as a tri-iodide of cresol. It contains eighty per cent. of iodine, and is soluble in alcohol and readily taken up by fatty substances. Dr. Saalfeld finds a one per cent. ointment valuable in skin diseases due either to vegetable or animal parasites, as tinea tonsurans and pityriasis versicolor; for pediculi capitis and pubis twenty-five per cent. of vinegar is added to the ointment; and in the case of scabies a stronger preparation is employed, containing two or three per cent. of losophan. In chronic skin infiltrations an ointment of the strength of one or two per cent. was useful, but in acute eczema it appeared to be irritating. In prurigo, sycosis vulgaris, acne vulgaris and rosacea, and in puritus, it was very effectual. It appears to be of little use, however, in psoriasis or urticaria, and is contraindicated in acute inflammations of the skin.—*Medical Record.*

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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HOW TO OPERATE FOR HEMORRHOIDS.

Dr. Charles B. Kelsey, in a lecture delivered in the New York Post-Graduate Hospital, and published in the *Therapeutic Gazette*, April 15th, 1893, after graphically describing the clamp and cautery, and the ligature methods of operating, goes on to say the following about the injection of carbolic acid as a means of cure, which we quote in full. Our experience has been very similar:

So much for the radical cure of hemorrhoids. But the average man only wants his hemorrhoids cured when he is suffering pain; that is, if they are to be cured by an operation. And as the pain of the disease is very intermittent, and, as a general rule, he suffers only a certain amount of annoyance and discomfort from them, it follows that he will seek relief in many ways, and, if he does not find it, will carry his piles with him through a long life down to the grave. It is, therefore, a very desirable thing to be able to do something for these patients that will satisfy them—something that will stop the bleeding and protrusion, and yet shall not be "an operation" that will compel them to be laid up. The knife they fear, ether carries with it a great dread, and the ligature is not pleasant to contemplate.

Can we meet this legitimate want on the part of the public? In a measure, yes. We can by several means arrest bleeding. By more serious measures we can reduce the size of the tumors till they shall no longer protrude at stool. The relief will probably not be permanent; the pain may be considerable; it is, in fact, the old story of cutting off the dog's tail by inches to avoid hurting him; but if the patient prefers that kind of surgery, after it has been explained to him, there are ways of doing it without any special danger, and the practitioner is justified in using them. It is true that only enough of the caudal appendage will probably be removed to make a very unsatisfactory stump in the eyes of the surgeon; but if the patient wishes it done, I hold that, as long as no false promises are made, it is a justifiable concession to his fears and desires.

The best known, but I think not the most desirable, method of accomplishing this is by the injection of carbolic acid into the tumors. With a fine and clean hypodermic syringe inject from 5 to 10 drops of a ten per cent. solution of carbolic acid, in a menstruum of equal parts of glycerine and water, into the centre of each hemorrhoid. When it works nicely, there will be a little smarting only at the time and soreness for a few days after, and the foreign substance will set up just sufficient irritation to cause some consolidation around it, and hence decrease in the vascular supply, with decrease in size and in the amount of bleeding. After all of the piles have been injected—some once, others several times—the patient will consider himself cured. The tumors will no longer bleed or protrude at stool, and he is very grateful. The relief will probably last three or four years in a favorable case, and then he will return, and you will find a decided change. The tumors now are harder and firmer to the touch, and the skin of the margin of the anus is more involved in them. They are, in fact, covered by muco-cutaneous tissue instead of velvety mucous membrane, and they are much less amenable to a second course of the same treatment than they were to the first.

This is the course of a favorable case, but all cases do not act in this way by any means. The variations from it are manifold.

Some day you will make the usual injection, as you have done dozens of times before, and your patient will suffer great shock. Exactly why it is hard to tell, but he will either faint on the table or will get cold; his pulse will become weak; you will think he is about to faint—as, indeed, he is—and you will rush for stimulants. After an hour or so he will probably be able to leave the office and go about his business, but it will be many days before you will cease to wonder what was the matter with him. Finally, you will call it a nervous shock, but you will not be anxious to inject him again. On that score, if your experience is like mine, you need not have any uneasiness. He will not come back. You have lost your patient.

In another case, after the injection, your patient goes out of the office with only the usual smarting and pain ; but instead of subsiding, it goes on increasing, and after a few hours you will get an urgent request to come to him at once. In fact, you may get a telegram, as I once did, saying that the patient is suffering the "torments of the damned." You go with a hypodermic syringe in your pocket, and as soon as you arrive you use it—this time for morphine, however. After a while the pain is overcome, but again you don't know what has happened. The man is all right after a day or two, but he never has another injection, and again you have lost your patient.

In another case the history will be as follows : After the usual glowing prognosis of no pain, no interference with business, etc., you make an injection, and tell your patient to come again in a few days. At the end of a week he appears. Perhaps he has been in the house since the last visit, and perhaps he has dragged around at his business, but he has certainly had a good deal of pain. On examination you find quite a deep slough, the size of a silver quarter, covering the point of injection. That particular hemorrhoid, you may be sure, is in a fair way to be cured, and you inject another one. The same result follows, and after four or five weeks of pain and partial disability, if the sloughs heal kindly, the patient is discharged from treatment. He has had rather a hard time—much harder than either of the radical operations would have caused him; but still he will not be troubled again for some years, and, if he is satisfied, perhaps you may be. I have noticed also that after three or four years, when these patients come around again to talk about having something done for their piles, they do not take kindly to the idea of a second course of treatment by injection.

Exactly why sloughing will result in one patient with weak solutions, and will not in another, though much stronger solutions are used, it is not easy to say. Such, however, is the clinical fact.

Another class of cases will give you still more trouble. After the first injection, or perhaps not until after the second or third, the patient will go to bed and send for you on account of his pain. You find on examination a painful tumor at the verge of the anus, the size of the end of the thumb, covered partly by skin and partly by tense mucous membrane. This is a marginal abscess. It means much pain and confinement to bed for several days. Then it bursts, generally on the skin, and again on the mucous surface, and a short fistulous track half an inch or an inch in length is left between the two openings. This may heal spontaneously, or may have to be cut. In any event, the patient has carried the treatment as far as he will, and you will get no credit.

In another class of cases you will be surprised at the powerful effect of your remedy, and you will get a partial cure from a single injection, but not much to your gratification.

On the day after the injection the patient will send for you, and you will find not only the pile you injected, but all his piles, inflamed, prolapsed, and strangulated. You will be surprised to find how much more hemorrhoidal disease he has than you supposed when you made your injection. You keep the man in bed, apply poultices and anodynes, give a cathartic to act on the portal circulation, and leave the case to nature. Part of the protrusion will slough off, and when the inflammation has subsided and the protruded mass returned the patient will be partially cured.

But these are not all the complications. There is a peculiar blind, internal, submucous fistula which often owes its origin to an injection of carbolic acid. The piles may be cured as far as the patient knows, but, instead of being well, he has a new symptom—a sense of discomfort, often of actual pain, in the rectum, back, legs, and urinary organs. He goes from doctor to doctor, and nothing is found, till finally some diagnostician more thorough than the others finds a drop of pus coming out of the mucous membrane, just above the internal sphincter, and a small probe passed into the point from which the pus exudes will follow a submucous fistulous track for an inch or more. The injection did not cause a slough over its point of deposit and allow of the escape of matter in that way; but the pus, when formed, followed the course of the needle and escaped at the point of puncture. The same patient may have two, three, or even more of these fistulæ—one, in fact, for each injection.

These are the minor accidents and complications of this method of treatment. There are graver ones—large abscesses, deep and extensive perirectal inflammations resulting in bad fistulæ or dangerous illness, and ending in permanent disability or death. More fatal results have been reported in this country from carbolic-acid injections in the last ten years than from all of the radical operations combined. A fatal result I have never seen, but all of the other accidents have happened to me personally, and, combined, constitute a perfectly satisfactory reason for your not seeing me use the treatment here. Almost every week you see me operate with the clamp and cautery, and during the three years of this clinic you have never seen a failure to cure, and never any complications such as have been described. Therefore, I say to you, if you want to cure your patients and sleep comfortably yourself, use one of the radical operations. If you want to try palliative treatment, go very gently. Carbolic acid is only a palliative at best.

THE TREATMENT OF BUBO.

Dr. F. Sedgewick Watson, in the *Journal of Cutaneous and Genito-Urinary Diseases*, Feb., 1893, advocates the excision of buboes, and an attempt to secure union by first intention of the wound. He relates twenty-two buboes operated on, with perfect union by first intention. In ten the cases were not picked, but taken as they presented themselves in his clinic. The operation was practically the same in all cases, the only difference being in modifications of the incision. The skin was inflamed over the bubo in all but four cases, and in some was more or less necrotic. In every case suppuration of the glandular structure had gone on to a greater or less degree.

He uses one of two incisions in all cases when there is no necrosis of the skin. The one parallel to Poupart's ligament across the middle of the bubo, dissecting the skin up and down, thus exposing the glands, removing all diseased tissue, and uniting the wound with buried or ordinary sutures. The other, a crescentic cut, with the concavity upward, the base line being above Poupart's ligament and extending well down below the bubo into healthy skin; this flap is dissected up, the gland exposed, and thoroughly removed. The flap is then turned back and sutured. In some cases he drains by means of sterilized strands of silk through an opening made below the lines of incision. Where there is necrosis of the skin he uses the first cut, but modifies it by dividing it toward the middle, so as to form an ellipse which includes the necrosed area, and then removing it.

He warns against wounding the spermatic cord and femoral vessels, and to proceed with great caution in dissecting around the vaginal ring, lest an unsuspected hernia be present—the writer having found one, and narrowly escaped wounding the gut.

He draws particular attention to the tying of the ends of all lymph vessels that have been divided. If these are not ligated, a large quantity of fluid may exude and fill the wound, militating against primary union.

He could not draw any conclusion as to the results from these cases, as some that were expected to heal by first intention did not, and others that did not seem so favorable at the time of operation healed perfectly. In all cases the average duration in hospital was much less than by the old method of treatment by poultice and incision.

In all cases the following rules were strictly adhered to:

(1) To remove thoroughly all diseased tissue, and to leave, as far as possible, a perfectly healthy surface in every part of the wound. (To secure this it is always necessary to carry the dissection down to the fascia covering the abdominal muscles; sometimes to expose the femoral vessels, and generally the external inguinal ring.)

(2) To excise such portion of the skin as threatened to become necrotic, or had already become so.

(3) To curette the under surface of the skin flaps.

(4) To thoroughly swab the whole wound with drained sterilized gauze sponge, or sponge wet with a solution of cor. sub. 1-4000.

The writer also advises against using stronger solutions in cleansing the wound cavity. Have the wound as dry as possible before closing, and dress with large pads of sterilized gauze.

The Treatment of Gonorrhœa with Ichthyol.

Jadassohn (*Deutsche Medicinische Wochenschrift*) gives the results of his treatment of 106 cases of gonorrhœa with ichthyol. They were of both sexes. In the male cases examinations were made twice a week to determine the presence of gonococcus, the secretion examined being obtained from the deep portion of the urethra. In the female cases the cervix uteri and urethra were both examined. The ichthyol was used in a one to five per cent. solution in the anterior portion of the urethra, and one to ten per cent. in the posterior portion of the male urethra and the cervical canal in females. A one per cent. solution produces a burning sensation in the anterior urethra, but tolerance is soon established. A one per cent. solution has a marked anti-gonorrhœal action, the gonococci disappearing rapidly. In a certain number of the cases there was a return of the trouble, but the ichthyol rapidly changes the secretion from a purulent to a watery one. The use of ichthyol is strongly recommended as one of the best means of treating gonorrhœa.—*University Medical Magazine.*

[We have used ichthyol in from one to three per cent. solution, and have found most favorable results. It is not irritating, nor in any way disagreeable.—E.E.K.]

PEDIATRICS

IN CHARGE OF

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Discussion on Pneumonia in Section of Pediatrics, New York Academy of Medicine.

In the report of the March meeting of the New York Academy of Medicine, section on Pediatrics, there appears an extremely interesting discussion on pneumonia.

Dr. William L. Stowell related a case in which empyema followed pneumonia, and due to the same cause, the pneumococcus, which was demonstrated to be present.

Dr. Koplik discussed the bacteriology and epidemiology of pneumonia in children. Broncho-pneumonia in catarrhal pneumonia might occur as a primary or secondary disease. The author accepted the view that broncho-pneumonia was peculiarly a disease of childhood, in which the bronchi, their walls, and neighboring structures were the seat of inflammation.

Pneumonia as it occurred in childhood had been regarded as an acute infectious disease by Jurgenson in 1883. His conclusions are of interest even to-day, namely, that it was an acute infectious disease of bacteriological origin. In 1884, the investigations of Fraenkel led him to the conclusion that pneumonia in the adult was the result of infection by a micro-organism, which he named diplococcus pneumoniæ. Fraenkel asserted that the diplococcus was the cause of pneumonia in the adult, but denied its presence in broncho-pneumonia. Weichselbaum contended that the diplococcus was also present in broncho-pneumonia. The views of the latter are borne out by many investigations since.

The streptococcus of Fraenkel was tenacious of life, and might not only cause pneumonia, but also pleurisy, meningitis, peritonitis; and Netler's investigations tended to show that in the second period of childhood it might cause empyema, broncho-pneumonia, otitis, meningitis, lobar pneumonia, purulent arthritis, and hepatic abscess.

Infection of children occurred chiefly through the nose and upper respiratory passages, while in the adult it occurred most frequently in the lungs and upper respiratory passages. The bacteria might remain local or invade every organ in the body, causing a species of septicæmia.

Regarding the secondary pneumonia, there is no constant factor in causation.

Discussing epidemiology, the author said that pneumonia could be communicated from one person to another through the medium of the sputum. This point had been established upon bacteriological data. The organisms in the sputum of pneumonia are very tenacious of life. The dried particles containing the virus were carried into the atmosphere, and spread the disease to others.

Dr. Keelafield agreed with Dr. Koplik that there was no difference in the bacteriology of broncho-pneumonia and lobar pneumonia, the primary form in each being caused by the pneumococcus. Secondary broncho-pneumonia more frequently showed the streptococcus, less frequently some other micro-organisms. The same was true of secondary lobar pneumonia. We had to admit, then, that the cause of broncho-pneumonia and lobar pneumonia was the same. We had to ask ourselves, then, why it was that children exposed to the same causes regularly had broncho-pneumonia, adolescents either lobar or broncho-pneumonia, while adults regularly had lobar pneumonia. The only explanation the speaker could offer was the age of the patient, and consequent difference in the structure of the lungs.

Reflex Eczema in Babies and Young Children.

Dr. George T. Elliot (New York) says : It is a reflex neurotic eczema occurring in babies and young infants, and is met with often in the first month of life, at times in the first week, and occasionally not until the first or second year.

One of its especial features is its localization ; it is always symmetrical, and primarily situated over both cheeks, the forehead comes next in point of frequency, and occasionally the scalp. It may, however, extend over the extensor surfaces of the extremities—not the flexor—especially about the wrists, knees, and ankles. The trunk was exceptionally implicated.

The cause depends upon pathological conditions, which are internal in nature, or which can act only in a reflex manner, and gastric and gastro-intestinal disturbances occupy the first place. These, operating both as primary causes and as determinative of relapses, may be catarrhal or fermentative or irritative in nature, or there may only be constipation present or some other functional trouble. Diet plays an important rôle. Other causes are detention, slight or grave cystitis, intestinal worms, oxyuris vermicularis, and particularly an adherent prepuce.

The first indication is to remove the reflex cause, and therefrom the remedies or drugs called for are precisely and absolutely the same as would be indicated were there no eczema present. While the removal of the exciting cause is the absolute *sine qua non* in the treatment of these cases, yet the local remedies should not be neglected. They do not act in a curative manner, but simply as adjuvants, protecting the diseased surfaces, relieving the subjective symptoms, and thus preventing the production of secondary irritative outbreaks by the scratching. The following is as good as any other:

R.—Acidi salicylici	gr. x.
Ung. aq. rosæ	℥ i.
Zinci ox	ʒ ss.

M.

Still great benefit will be obtained oftentimes by the addition of ichthyol (two or three per cent.) to the same ointment, or a half a drachm to one drachm of the fluid extract of ergot. When the skin is considerably thickened and infiltrated, and the inflammatory and exudative symptoms are not of a high grade, tar will be more useful.—*International Medical Magazine.*

PURPURA FULMINARIS IN CHILDREN.

Dr. Clara E. Dercum, in the *Medical and Surgical Reporter* for November, 1892, publishes a paper on the remarkable and fatal affection, purpura fulminaris. She gives a description of a case coming under her own observation, and has collected twenty additional cases from various sources. In the reported case, a little boy of four years, the subcutaneous hemorrhages were very extensive. There was epistaxis, but no loss from the mucous membranes. Death resulted on the eighth day. Of the twenty collected cases, nineteen occurred in young children, and one in a pregnant woman. Eighteen of these cases resulted fatally, three recovered. In fourteen cases there had been preceding illness, two followed pneumonia, three after scarlet fever, one after measles, one after whooping-cough, two during attacks of impetigo, nine after gastro-enteritis, and one was preceded by malaise. In one case the cow from which the child received its food had an abscess of the udder. The pus was noticed in milk, and no other food was given to the child. In one case a micrococcus was obtained from pure cultures from the affected tissues of the body, which reproduced the disease in rabbits.

The writer gives the results of an investigation regarding the etiology of purpura by Latzerich. This investigator had six cases under his immediate care. He revealed a bacillus from pure cultures from these patients, which when injected into rabbits caused purpura. While making these investigations Letzerich in some way became infected, and suffered from three successive attacks. During these attacks he had hemorrhage from gums, pharynx, nares, bronchial tubes, and intestines. There was very great enlargement of the liver and spleen, and purpuric spots on the skin and buccal mucous membrane. During these attacks he obtained from these purpuric spots the same bacillus obtained from culture experiments. He also obtained pure cultures from the spots, and reproduced purpura each time in rabbits. He infers from these experiments that purpura in all its forms is due to this bacillus, and that the different varieties depend upon the intensity of the poison and the resistance of the individual. (See page 344 in this issue—Dr. R. B. Nevitt's case of above disease.)

Diuretin in the Treatment of Scarlatinal Nephritis.

Demme (*Journal de Medicine de Paris*, 1892, No. 20, p. 241) states that diuretin is contraindicated in infants under one year of age, with whom its administration is often followed by irritation of the gastro-intestinal mucous membrane. To older children, two to five years, he gives 7 to 22 grains daily, increasing this to 45 grains in children from six to ten years old. He has employed this drug in 11 cases: in 4 of which there was anasarca; in 3, mitral insufficiency, with insufficient diuresis, despite the restoration of compensation by digitalis; in 2, chronic peritonitis with ascites; and in 2, pleurisy with effusion. Diuretin he finds to be an efficient diuretic, acting directly upon the epithelium of the kidney. It is still impossible to pronounce upon its influence over the circulation, but it seems to be of little moment. In scarlatinal nephritis it is very energetic, the ascites disappearing more rapidly than under the action of any other diuretic. It is important, however, to describe it only after the end of the first stage of the inflammation. The anasarca and ascites following upon mitral lesions should be first treated by digitalis until compensation has been secured, and then submitted to diuretin. Under these conditions all dropsy rapidly disappears.—*American Journal of the Medical Sciences.*

Ulceration of Suppurating Bronchial Gland.

J. W. Smith showed before the Manchester Pathological Society the preparation from a case in which suffocation had resulted from ulceration of a suppurating bronchial gland into the right bronchus. The patient, a girl of three, who was supposed to be choking from a piece of coffee, was brought to the Manchester Royal Infirmary in a moribund condition. Tracheotomy and artificial respiration were performed without success. At the necropsy an oval ulcer with ragged edges was found on the outer and posterior wall of the right bronchus. It communicated with the cavity of a caseous bronchial gland. A flocculent slough the size of a horse-bean lay at the bifurcation of the trachea. Caseous nodules were scattered through both lungs.—*The Lancet.*

HERPETIC AFFECTIONS OF THE MOUTH AND PHARYNX IN CHILDREN.

Dessau, S. Henry (*Int. Med. Mag.*), says : No better treatment in herpetic affections of the mouth and pharynx in children can be found than fractional doses of calomel, given in the form of the tablet triturate, one-twentieth to one-tenth grain each, every two or three hours. In such doses calomel acts as an undoubted stimulant of the liver, one of the five functions of which organ is to destroy the poisons formed in the process of both normal and abnormal digestion of food, and so prevent their entrance into the general circulation of the blood.—*Archives of Pediatrics.*

MENSTRUATION IN AN INFANT.

O. E. Tchernomordik, of Tschashniki, relates (*Vratch*, No. 4, 1892) the case of a normally developed and generally healthy girl who has been regularly menstruating since February, 1891, when she was not quite one year old. The hemorrhage recurs every four weeks, lasting on each occasion four or five days, and being accompanied by occasional pain about the hypogastrium. The first menstruation was preceded by some fever, an urticaria-like rash over the whole body, and general restlessness lasting for three days. The symptoms subsided with the appearance of the bleeding. The girl's mother is somewhat nervous, but otherwise healthy. She began to menstruate at about the age of fifteen.—*Archives of Gynecology.*

PATHOLOGY

IN CHARGE OF

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THE CAUSATIVE FACTORS IN WHOOPING-COUGH.

Ritter (*Münch. Med. Woch.*, Nov. 8th, 1892) refers to the failures to isolate the actual cause of this disease until it was borne in mind that the chief changes lie in the lower third of the trachea—the larynx and rest of the trachea showing no marked catarrhal changes.

Special attention was then given to the bronchial secretion, which is of a blackish-yellow color. From the lenticular masses of sputum cultures of a very small diplococcus were almost always obtained, and the author looks upon it as the cause of whooping-cough. This micro-organism is strongly aerobic, grows best on agar-agar, and between 36° and 38° C. These diplococci may be arranged in straight or clustered chains.

The author points out the many and unmistakable distinctions from other micro-organisms found in catarrhal sputum.

His experiments on animals are not as yet concluded. In dogs he has been able to produce the disease; but the introduction of various agents into the dog's neck has been found capable of setting up typical whooping-cough.—*British Medical Journal.*

Detection of Tubercle Bacilli in Sputum and Urine.

Van Ketel recommends that in cases where tubercle bacilli are so few in number as to render their detection in sputa difficult carbolic acid should be made use of, since it separates the epithelial cells and increases the fluidity of mucus, and thus enables the bacilli to fall more readily. His method is as follows: 6 c.c.'s of carbolic acid, 10 c.c.'s of water, and 15 c.c.'s of suspected sputa are mixed and thoroughly shaken up together. The mixture is allowed to stand in a conical glass for from 12 to 24 hours, and cover-glass preparations then made from the sediment. Jolles suggests a modification of this method for use in the examination of urine where tubercle of the urinary tract is suspected. To 100 c.c.'s of sediment containing urine add 6 c.c.'s of a saturated solution of carbolic acid in water. Shake up together and let sit in a conical glass for 24 hours; decant off the fluid, and prepare cover glasses from the sediment. After such treatment bacilli tuberculosis are not only more likely to be found in the sediment, but staining is accomplished more easily than would otherwise be the case.

Laveran's Malaria Germ.

In the March number of the *Southern California Practitioner* appears an article by C. Schwalbe, M.D., of Los Angeles, Cal., which calls in question the microbic character of Laveran's "plasmodium malariæ." The writer asserts that by the injection of certain chemical agents into the blood of animals one can produce the same changes and appearances as malaria gives rise to in human beings. Amongst the animals experimented upon were guinea-pigs, cats, dogs, and rabbits—the last most frequently. After using subcutaneous injections of acetylphenyl hydrazin (1 c.c. of a 1-100 watery solution) all the forms of "plasmodium malariæ" excepting the "sunflower" were found. The *post-mortem* examination of a rabbit which had received numerous injections during the period of time embraced between November 29th, 1892, and January 31st, 1893, showed that the spleen was enormously enlarged and contained much black pigment; the medulla of the bones was deeply pigmented, and the urine in the bladder contained pigment. The plasmodia-like bodies are the result of degenerative processes in the blood corpuscles, and there can be no *microscopic* evidence sufficient to show that those seen in malaria are protozoan any more than are those produced experimentally. Schwalbe takes exception to Gerhardt's proof of the germ origin of malaria by injections of blood from malarious patients into supposedly sound ones for two reasons. First, that the soundness (*i.e.*, as far as malaria was concerned) of those experimented on was not established; and, second, the degenerated blood of malarious patients is *in itself* quite able to cause changes in the blood of sound people and give rise to the formation of the so-called plasmodia.

The Presence of Tubercle Bacilli in the Lymphatic Glands of Non-tubercular Subjects.

Primary tuberculosis of the lymphatic glands, although a rare condition, has been fairly well investigated, and its pathology is now tolerably well known. It is not in this direction, therefore, that Dr. Pizzini (*Zeitsch. f. klin. Med.*, xxi, 3-4, 1892) has directed his researches. He has endeavored to ascertain by systematic investigation whether the lymphatic glands of non-tubercular individuals who die of some other disease than tuberculosis contain any tubercle bacilli, and his experiments have disclosed some very interesting facts.

He inoculated guinea pigs with the bronchial, mesenteric, and cervical glands of thirty adults free from tuberculosis, and in whom death was due to acute disease or accident. Twelve out of the thirty guinea pigs inoculated rapidly developed tuberculosis, from which it may be inferred that Koch's tubercle bacilli may be present in the body of perfectly healthy individuals without giving rise to any perceptible lesions.

But tubercle bacilli were not found indiscriminately in the various groups of glands experimented with. One would *a priori* expect to find them more frequently in the bronchial glands. The correctness of this assumption is clearly demonstrated by Dr. Pizzini's experiments, which also disclose the important fact that in not one of the thirty guinea pigs was tuberclosis produced by inoculation with the mesenteric glands. This leads us to the equally to be anticipated conclusion that the disease is much more frequently acquired through the lungs than through the alimentary canal. Introduced into the trachea and large bronchi, the bacilli are deposited on the surface of the mucous membrane through which they pass, whether it is healthy or the seat of catarrhal inflammation, and thus find their way to the bronchial glands which are connected with the respiratory mucous membrane by means of the very numerous lymphatics. There they remain dormant, but still retain their vitality (as is readily shown by inoculation), until for some cause or other they are aroused again to activity.

The fact that virulent tubercle bacilli are found in the glands in such a large proportion, 40 per cent., of healthy individuals, without giving rise to any manifestation, enables us to understand the anomalies which are sometimes present in certain clinical varieties of pulmonary phthisis. In presence of these results, the question might also be asked whether there is any hope of success in the attempt to effectually prevent ourselves by prophylactic measures against such a widely distributed organism. Ought we not to consider the part played by certain conditions of *milieu*, and by secondary causes of greater importance than the actual introduction of the bacilli into the system?

The occurrence of certain acute forms of tuberculosis, of miliary tuberculosis in particular, is perhaps to be explained by the presence of living tubercle bacilli in apparently healthy glands, ready to spring into activity again and to infect the whole organism on the first favorable opportunity. This is usually afforded them by the occurrence of such diseases as diabetes, measles, etc., which favor their growth and development.—*The Medical Week.*

THE DIAGNOSIS BETWEEN TUBERCULAR AND NON-TUBERCULAR PUS.

[E. Debraye and E. Legrain, *Rev. Med. de L'Est.*, Oct., 1892; abstract from *Rev. Internat. de Bibliog. Med.*, Jan., 1893.]

D. and L. have conducted experiments to determine whether tubercular and non-tubercular pus might be easily differentiated by chemical reaction. They conclude that pus containing only tubercle bacilli, and which has not been contaminated with ordinary pyogenic organisms, gives when diluted in the proportion of two or three drops of pus to two or three c.c.'s of distilled water, to which a small piece of caustic soda or potash has been added, the *violet color* due to albumins on the addition, drop by drop, of an almost colorless solution of sulphate of copper. Pus from an ordinary abscess, on the other hand, when treated in the same way, presents the *rose color* characteristic of peptones. One is not entitled, however, to absolutely exclude tuberculosis by the peptone reaction, since pus microbes invading softening tuberular foci peptonize the products, and the violet coloration is lost.

Editorials.

SPECIALISM IN MEDICINE.

THE growth of specialism in medicine in recent years, especially in the United States, has been almost marvellous. Whether we like it or not matters but little; we may as well recognize the fact that it is "here to stay." Dr. Osler, of Baltimore, who was president of the American Pediatric Society last year, took as his text for his address at the annual meeting the subject of specialism. The existence and prosperity of this young and vigorous society furnish one of the many examples of the growth and strength of specialism at the present time. This, however, is only one out of more than a dozen societies organized for the study of particular diseases which now exist and hold annual meetings in the United States. The union of these special societies in a triennial congress is well known, and generally recognized as a marked success.

Dr. Osler, in the address referred to, discussed, in his usual clear style, the advantages and disadvantages of specialism. He takes it for granted that the rapid increase of knowledge has made concentration in work a necessity, and then contends that the earnest workers in different branches of medicine have contributed largely to inculcate the idea of thoroughness and produce better work all along the line. He says a shallow diffuseness has given place to the clearness and definiteness which comes from accurate study in a limited field. The advantages of a division of labor are fully recognized and highly appreciated by the public, who exhibit such a desire for expert knowledge that there has arisen a grave danger that the family doctor will become a relic of the past.

In reference to the disadvantages, the doctor expresses himself somewhat as follows: A radical error is the failure to recognize that the results of specialized observation are only partial truths. The various organs, whose diseases are subdivided, are not isolated, but complex parts of a complex whole, and experience proves that "when one member suffers all the members suffer with it." A serious danger is the attempt to manufacture rapidly a highly complex structure from ill-seasoned material. A reference is also made to the mistake of entering on special lines without a sufficient knowledge of physiology and pathology. The enthusiastic student who is almost born a specialist is not commended. The cultivation of a specialty as an *art* tends to develop a narrow and pedantic spirit.

Dr. Osler's views on the education of students in medicine are fairly well known. He is, and always has been, opposed to the short and superficial courses which, in the past, have been sad blots in the history of medical education in the United States. He says it is impossible, in three sessions, to bring men beyond the superficial routine; but in a more prolonged course the student can be taught practically, in the wards and dispensaries, enough of the technique of the specialist to give, at least, a foundation on which to work.

THE ONTARIO MEDICAL ASSOCIATION.

WE have received from Dr. Wishart, the secretary, the announcement of the Ontario Medical Association, giving lists of its officers and members, together with certain information respecting its formation and progress. It was organized in the year 1880. In October of that year a meeting of the profession was held at the Canadian Institute, Toronto, when a committee of Toronto physicians was appointed to take charge of the matter. Dr. Wishart's announcement omits to mention the fact that a committee of Hamilton physicians was appointed to co-operate with the Toronto committee. A meeting of the two committees was held in the Rossin House, Toronto, in the latter part of the year 1880, when the final arrangements for the first meeting were completed.

This meeting was held in Toronto, June, 1881, under the presidency of our distinguished and beloved Nestor, Dr. Joseph Workman. Since that time the presidents have been successively: Drs. C. W. Covernton, Toronto; J. D. Macdonald, Hamilton; D. Clark, Toronto; A. Worthington, Clinton; G. A. Tye, Chatham; J. H. Richardson, Toronto; J. W. Rosebrugh, Hamilton; W. H. Henderson, Kingston; J. Algernon Temple, Toronto; W. H. Moorehouse, London; R. A. Reeve, Toronto; and R. W. Hillary, Aurora. Of these, three are dead—Drs. Worthington, Tye, and Henderson.

The meetings have been held in Toronto, excepting those of 1884 and 1885, which were held in Hamilton and London. There were 132 present at the first meeting. During the last few years there has been an attendance of about 200 or more. In 1890 there were present 233; last year, 218. The membership is now 700.

The association has been remarkably successful since its organization, and the prospects in the future are of the brightest sort. It is expected the coming meeting will be fully up to the standard attained during recent years. The time fixed by by-law is the first Wednesday and Thursday of

June; but, on account of certain meetings and excursions to the Chicago Fair, it was decided to change the date this year. As will be seen in our advertising columns, the meeting will be held on Wednesday and Thursday, June 21st and 22nd. Physicians who are willing to read papers or present cases are requested to notify the secretary as soon as possible. Parties wishing to join the association may obtain blank forms from the secretary.

TYPHLITIS.

THE question of typhlitis is one of such importance to the profession in general that we feel that the stand taken by Mr. Frederic Treeves in his paper on "Relapsing Typhlitis," read before the Harveian Society, and published in the *British Medical Journal*, April 22nd, 1893, should not go unchallenged.

There are few questions that arise in general practice that require more serious consideration than that of deciding at just what moment we should operate in case of typhlitis. Often we hesitate until it is too late. It is better to operate a day too soon than an hour too late. The mortality of cases operated on is greatly augmented by delayed operation. Many patients who are rendered chronic invalids from frequent relapses might be saved from such by early operations. They are allowed to run all the dangers attendant on each succeeding relapse, simply because it is impossible to say that any one attack may not be the last. It often is, in more senses than one. It is from these few uncertainties that we take exception to Mr. Treeves' position. The appendix is the most frequent source of trouble in a great majority of all cases. In the relapsing form Mr. Treeves says that in "90 or 95 per cent. it is due to mischief in the appendix." We do not know what percentage of all cases can be considered as relapsing. Fitz places the *mortality* of cases treated medically at 11 per cent.; then the relapsing cases are made up of a proportion of the surviving 89 per cent. It would be exceedingly difficult to arrive at the percentage, but we can infer from experience that it is large. Cases in which the appendix has been the source of the trouble are liable to relapse.

Mr. Treeves is aware of many cases in which a patient has had three or more attacks of typhlitis, and has then ceased to be troubled with further attacks; but to what dangers was the patient exposed during these subsequent attacks, that might have been avoided by surgical interference, say, after the second attack? How are we to distinguish the last attack from which recovery will be made by medical treatment alone? He may be classed amongst recoveries from the second attack, and relieved from the possibility of a third by operation; but from a third he may furnish material for *post-mortem* discussion. Mr. Treeves mentions: "Case 2, nineteen relapses in six years, patient a chronic invalid; operation; recovery." "Case 4, eleven relapses in three years; operation; recovery." "Case 3, thirteen relapses in four years; operation; recovery," and several other instances like the above." These show that the system will become tolerant to relapses without necessarily being fatal to the patient, and allows the surgeon plenty of time to make up his mind as to relapse limit. A great many surgeons would feel that they had been very derelict in their duty, and that they had allowed their patients to expose themselves to repeated dangers unnecessarily, if they had not operated sooner; at any rate, in this country that would be the feeling. Mr. Treeves further says: "I have never operated in any case in which I have not been able to make out the enlarged appendix still in evidence after the acute symptoms have passed away." Possibly this will account for the frequent relapses in the cases cited. It is not always an easy matter to distinguish the enlarged appendix. It is frequently bound down, or curled up by adhesions in such positions that it is impossible to feel it. It is not essential before deciding to operate that the appendix be felt; yet there might be other sufficient evidence to warrant the operation.

The appendix is of no physiological use, and the same cry cannot be raised against its removal that can be against the removal of appendages with known physiological uses. Man would be less liable to typhlitis if he had no appendix. The mortality from early operative interference, as we have said, is very low.

Whatever doubts there may be as to operation in first attacks, we think that in relapsing cases it is always quite justifiable, and, after a second relapse, advisable. The patient has demonstrated his weakness; and simply because cases have made perfect recovery after three or more attacks, it is not right to suppose that all will. In the same issue of the *British Medical Journal*, page 841, Gilbert Barling says of relapsing cases: "Does every (relapsing) such case call for operation? Personally, I should wait for a second relapse before resorting to operation, unless the symptoms in the first relapse were of a severe kind." We agree with Mr. Barling in the premises. The mortality of Fitz should be reduced by a combined medical and surgical treatment, and, notwithstanding Mr. Treeves' opinions, we think that relapses should not be allowed to continue indefinitely.

THE PAN-AMERICAN MEDICAL CONGRESS.

WE publish in this issue (page 394) the official circular from the Secretary-General, Dr. Charles A. L. Reed, giving valuable information with reference to the first Pan-American Medical Congress, which will be opened, September 5th, at Washington, under the presidency of Dr. William Pepper, the distinguished provost of the University of Pennsylvania. An immense amount of energy has been expended by the able and indefatigable general secretary and his confrères in making satisfactory arrangements for this congress, and the prospects for a successful gathering appear at present to be very bright.

The preliminary announcement, which was issued some months ago, contained lists of the officers of the different sections, and the members of the various committees of the different countries of North and South America, outside the United States, as well as those in the several states of the Union. Canada has received very cordial invitations to co-operate with our cousins south of us, and many of her physicians have been selected as officers in the various sections and members of committees.

Some of the Canadian officers have shown much vigor in entering upon their duties; but have not, in many instances, received as much encouragement as they desired. Dr. Walter H. Moorehouse, of London, Ontario, the Canadian secretary of the section in general medicine, writes to say that he finds it a very difficult matter to get general practitioners to consent to write papers for the congress. We hope the profession in Canada will take a live interest in this great undertaking. There is plenty of time between now and next September to prepare papers. Our friends in the United States want to see us at the congress; they also want to hear us at the same. Let us give a hearty response to their kind and cordial invitations.

UNIVERSITY OF QUEEN'S COLLEGE.

AT the recent convocation of this university, held April 25, the post of honor was assigned to John L. Bray, of Chatham, who delivered an address to the graduates and students of the new Medical Faculty. He gave good advice to the new graduates, related interesting reminiscences, and referred to the positions of honor and trust which had been or are now held by his fellow-graduates. The doctor graduated in Queen's thirty years ago. Of the twenty-four in his class, only eight are now living. Of the professors of that time only two are left, Rev. Dr. Williamson (Arts and Divinity) and Dr. Fowler, the present Dean of the Medical Faculty. He called attention to the success of Queen's graduates in all parts of the world. The first president of the Ontario Medical Council (1866-7) was the late Dr. John R. Dickson, at that time Professor of Surgery in Queen's. Since the formation of the Medical Council, seven of Queen's graduates have filled the same position. The address was well received, and highly complimented by Principal Grant. While we have pleasure in congratulating Dr. Bray, we think it not wise to tell the public that he graduated thirty years ago. Those who watch him on the cricket field, or on the ice when he "pits the stane" after the sturdy curler's fashion, might either doubt his veracity or think that he graduated before he was born.

UNIVERSITY OF TORONTO.

A SPECIAL convocation for conferring degrees in medicine and dentistry was held in the hall of the School of Practical Science on Friday, May 5th. Mr. William Mulock, the vice-chancellor, presided. The president, Professor Loudon, the dean, Dr. U. Ogden, many members of the various faculties, a large audience composed mostly of ladies, and the students of medicine were present. Full lists of the graduates of the various universities of Canada and the successful candidates at the examinations of the Medical Council will be given in our next issue.

Correspondence.

ARTIFICIAL RESPIRATION IN ASPHYXIA NEONATARUM.

Editor of THE CANADIAN PRACTITIONER:

SIR,—I am pleased to see a communication on page 280 of your most valuable medical journal on the above subject from the pen of Dr. A. T. Rice, of Woodstock, Ont.

Several years since the late lamented Dr. John Ross, of Toronto, kindly asked me to see with him a restored infant, at which he had labored most of one night and next day till about noon, somewhat in the manner Dr. Rice describes.

A point, however, which Dr. Rice omits to mention, but which I have no doubt he very carefully attended to, is closing the nostrils with the finger and thumb clasped on the nose, while forcing air, freshly inhaled as possible, very gently into the infant's lungs.

In several instances I have adopted the method Dr. Rice mentions, with the most satisfactory results. In a case of breech presentation, the length of time elapsing before the head could be delivered rendered it altogether likely that the birth would be "still." So still was it that the cord was pulseless, and the action of the heart imperceptible, and the little stranger a deep blue color, and as limp as a rag. But for the hope rested upon Dr. Rice's method, I should have laid the body by as lifeless. Persisting for half an hour with scarcely a ray of encouragement, so far as signs of life could encourage, I at length saw a change in color; and soon came a gasp for breath. With what exultation that gasp was witnessed none can judge but him who has been called upon to deliver into proper hands, and abounding in life, the budding hope of awaiting and anxious parents.

The attendant at the lying-in once having carefully and judiciously practised the method of restoration Dr. Rice has so well called attention to will never again be found resorting to the barbarous method of dashing cold water upon the steaming form that should especially be kept snugly warm.

CHARLES H. LUSK, M.D.

Oakville, Ont.

Book Reviews.

MEDICAL AND SURGICAL GYNECOLOGY. By S. Pozzi, surgeon to the Lourcine-Pascal Hospital, Paris. Translated from the French edition under the supervision of and with additions by Brook H. Wells, M.D., Lecturer on Gynecology at the New York Polyclinic. Volume II., with 174 wood engravings and nine full-page plates in color. William Wood & Company, 1892.

It is with pleasure that we review the second volume of this admirable work. The second volume begins with inflammation of the uterine appendages, and it is here that the author has given very decided views, with which we agree in the main. The author gives all the latest views bearing upon this subject, and the opinions expressed are very moderate. We might make a sugges, tion that we would like to see carried out, and that is that this valuable work, taking into consideration both the first and the second volumes, might be put into better shape for the use of the student of medicine. As it is, it is suited for the practitioner. To make it more suitable for the student it would require condensing, and perhaps some alteration in the classification and nomenclature. In places we notice some repetition that might be avoided; this occurs chiefly in connection with the pathology. The nomenclature is more correct than that usually adopted, but we notice one error that is carried through the work, namely, the word salpingotomy. If the removal of the tubes is meant, salpingectomy should be the word used.

We are sorry to see that the author has not taken a more decided stand against the use of pelvic massage, a procedure that should be heartily condemned. We have often wondered if advocates of this treatment would submit their own wives or sisters to it.

We cannot agree with the author's views regarding the value of electricity in certain cases of salpingitis. We do not believe that these cases recover on account of the special virtue of the electricity, but on account of the natural resolution that takes place. In one paragraph the author makes a happy comparison between the swelling of the cheek accompanying dental neuralgia (that is, of course, septic in its origin) and the pelvic œdema accompanying catarrhal salpingitis. We do not use electricity to cure the cheek, but the cheek, by virtue of the natural processes going on in the body, rapidly recovers its swollen condition; and surely the pelvic tissues may do likewise.

Here and there through the work the old-time gynecology that we thought almost buried crops to the surface, but only as landmarks of the limit between the old thought and the new. In the future, we hope to see these landmarks entirely disappear.

We are sorry to see the author collecting statistics without going more fully into the details of the cases. This is hardly fair to operators who report their cases, because erroneous conclusions are arrived at. The work is, however, freer from statistics than most works on this subject. It is pleasant to hear an author state his views in the following positive tone. For instance, on page 43 we find the following: "Is it permissible to make an exploratory puncture for the sake of clearing up a diagnosis? It seems to me a dangerous procedure, however far the tumor may be from the point of puncture. Whether it be abdominal or vaginal, this exploration, which seems so trifling to the patient and her friends, is, in reality, much more serious than an incision under antiseptic conditions." Again, we find another valuable paragraph: "An examination of the inflamed organs is difficult in acute tubo-ovaritis, because of the pain which it causes. If there be any doubt as to the diagnosis and a decision be imperative, the patient should be anæsthetized. I hardly know how to protest with sufficient energy against the systematic neglect of this valuable auxiliary to investigation, and against the substitution for it of an inquiry into the anatomical condition of the parts by one means of diagnosis only, namely, localized pain. This neglect is an excellent method of multiplying exploratory laparotomies." The author might also have said, "And of leaving unperformed operations that are necessary to effect the cure of the patient." How many of the old-time "fiddlers" ever gave an anæsthetic to aid them in making a diagnosis?

The chapter on the pathology of ovarian cysts is good, and sufficient for a work such as the one under review. It is hardly suited for the medical student, as a certain amount of knowledge is already taken for granted, an amount of knowledge not likely to be possessed by a medical student.

Extra-uterine pregnancy has more space given to it than is usual in works on gynecology. Genital and peritoneal tuberculosis is also given room.

The translation might, in places, be somewhat improved. On page 280 we find "A case of generalized peritonitis reported by Welander *concerns* a little girl of five years." We are willing to admit the great difficulties encountered by a translator, and consider the translation, in the main, excellent.

In some future edition of the work, we hope the author will spend more time on the treatment of various diseases. Take, for instance, vaginismus, one of the most troublesome affections met with. The treatment is not of sufficient definiteness. One would like to have the author's own experience recorded in treating such cases.

At the last of the work are added chapters on disorders of the urinary tract and diseases of the rectum, thus making the work one of the most complete on the subject of medical and surgical gynecology. The plates in Volume II., as in Volume I., are excellent.

TUBERCULOSIS OF BONES AND JOINTS. By N. Senn, M.D., Ph.D., Professor of Practice of Surgery in Rush Medical College; Professor of Surgery in the Chicago Polyclinic; Attending Surgeon Presbyterian Hospital; Surgeon-in-Chief, St. Joseph's Hospital; President of the American Surgical Association; President of the Association of Military Surgeons of the National Guard of the United States; Permanent Member of the German Congress of Surgeons, etc. Illustrated with 107 engravings (seven of them colored). In one handsome royal octavo volume, 520 pages. Extra cloth, $4.00 net; sheep, $5.00 net; half-Russia, $5.00 net. Philadelphia: The F. A. Davis Co., publishers, 1231 Filbert Street.

The subject of this book is one of the most profound interest, not only to the surgeon, but also to the physician. The fact that the majority of bone affections are of a tuberculous nature renders a proper understanding of their pathology and treatment of great consequence to both patient and attendant. It should be a cause of satisfaction, therefore, to the medical profession at large that one so well qualified to handle the subject as Dr. Senn has taken it up and dealt so exhaustively with it. Surveying the field as he does, historically, pathologically, and therapeutically, we have nothing but commendation to write of the book as a whole. On looking closely into it there are flaws discoverable, as in every such work, which will no doubt be removed in time. We will merely instance one or two of these as an indication of the direction in which, as it seems to us, improvement can be made. Would it not be well that Dr. Senn should set an example with regard to the *proper* use of certain terms which at present are used loosely and in a way likely ultimately to cause confusion? We have in mind just now the word "ptomaine," which is constantly put in the place of "toxin." Surely "ptomaine" ought to be reserved for certain results of germ life in the *dead* body, not the living? Again, we do not like to see the word "specification" applied as on page 46, where caseation is said to depend upon "specification of the bacillus of tuberculosis or its ptomaines." We doubt if such a use of the term be justifiable. There are other instances which we might give of similar faults, but repetition is unnecessary. With the form and style of the book we are not highly impressed; it is not worthy of the matter. The print is large and clear, but the cuts are, many of them, very poor.

The International Medical Annual and Practitioners' Index for 1893. Edited by a corps of thirty-eight department editors—European and American—specialists in their several departments. P. W. Williams, M.D., Secretary of Staff. 626 octavo pages. Illustrated. $2.75. E. B. Treat, publisher, 5 Cooper Union, New York.

The eleventh yearly issue of this valuable one-volume reference work is to hand, and it richly deserves the reputation which its predecessors have made, for selection of material, accuracy of statement, and great usefulness. The corps of department editors is representative in every respect. Numerous illustrations—many of which are in colors—make the "Annual" more than ever welcome to the profession, as providing, at a reasonable outlay, an excellent *résumé* of medical progress.

Part I. comprises the new remedies, together with a review of the therapeutic progress of the year.

Part II., comprising the major portion of the book, is given to the consideration of new treatments.

Part III. is made up of miscellaneous articles, such as "Recent Advances in Sanitary Science," "Improvements in Pharmacy," "New Inventions in Instruments and Appliances," "Books of the Year," etc.

The arrangement of the work is alphabetical, and, with its complete index, makes it a reference book of rare worth. Price, the same as in previous years, $2.75.

Psychopathia Sexualis, with especial reference to contrary sexual instinct. A medico-legal study. By Dr. R. von Krafft-Ebing, Professor of Psychiatry and Neurology, University of Vienna. Authorized translation of the seventh, enlarged and revised, German edition. By Charles Gilbert Chaddock, M.D., Professor of Nervous and Mental Diseases, Marion-Sims College of Medicine, St. Louis; Fellow of the Chicago Academy of Medicine; Corresponding Member of the Detroit Academy of Medicine; Associate Member of the American Medico-Psychological Association, etc. In one royal octavo volume, 436 pages, extra cloth, $3.00 net; sheep, $4.00 net. Sold only by subscription. Philadelphia: The F. A. Davis Company, publishers, 1914 and 1916 Cherry Street.

The above work is a valuable addition to medical jurisprudence. It has already gone through seven editions in the German language. The subject is treated of very fully indeed. The work is well worth reading. The typography and binding are in keeping with the general good work of the publishers.

Two Lectures on the Conduct of the Medical Life. By S. Weir Mitchell, M.D., LL.D., Harv. Philadelphia: University of Pennsylvania Press, 1893.

These lectures, which appear as a supplement to the *University Magazine*, May, 1893, were originally addressed to the students of the University of Pennsylvania. By invitation, Dr. Mitchell repeated them before the students of the Jefferson Medical College. On account of similar invitations received from other schools, and also owing to repeated requests, they have been published in a neat little volume of fifty-one pages.

The book is bound in boards, and is sold at twenty-five cents. It may be obtained from the University of Pennsylvania Press, 1516 Chestnut Street, Philadelphia.

The profits derived from the sale of this book will be donated by the author and the publishers to the fund for the Students' Club House at the university.

We publish an abstract of these lectures in this issue (see page 329.)

DIET FOR THE SICK. By Miss E. Hibbard, Principal of Nurses Training School, Grace Hospital, Detroit, and Mrs. Emma Drant, Matron of Michigan College of Medicine Hospital, Detroit ; to which has been added COMPLETE DIET TABLES for various diseases and conditions, as given by the highest authorities. Detroit, Mich. : The Illustrated Medical Journal Co., publishers. Paper, 74 pages. Price, postpaid, 25 cents ; 6 for $1.00.

This little book is a worthy supplement to any cook book, as it deals only with the dishes suitable for the sick and convalescent, the recipes being favorite ones in use daily in the hospitals wherein the authors employed. To this has been added the various authorized Diet Tables for use in anæmia, Bright's disease, calculus, cancer, chlorosis, etc. It also gives various nutritive enemata.

PHYSIOLOGY (Students' Quiz Series). By Fred. A. Manning, M.D. Lea Bros. & Co., publishers.

This manual, arranged in the form of questions and answers, is one of a series which we cannot recommend students to make use of. Everything that a student finds here he can also find in better form and with proper context in some of the recognized text-books. Such compends encourage superficial work for examination purposes, and are of little use, even for such purposes, where examiners are physiologists.

The following pamphlets and reprints have been received :

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Vol. IV., 1892.

REPORT OF SURGICAL CASES. By Donald Maclean, M.D. Reprinted from Proceedings of Michigan State Medical Society.

BONELESS AMPUTATION AT THE HIP JOINT BY A NEW METHOD. By Nicholas Senn, M.D., Ph.D. Reprinted from *The Chicago Clinical Review.*

SURGICAL THERAPY OF RECTAL CANCER. By Thos. H. Manley, M.D. Reprinted from *Merck's Bulletin.*

FIXATION AFTER EXCISION OF THE KNEE. By H Augustus Wilson, M.D. Reprinted from *The American Journal of the Medical Sciences.*

THE VALUE OF JAVAL'S OPHTHALMOMETER FOR THE CORRECTION OF ASLIGMALISM WHERE MARKED AMBLYOPIA IS PRESENT. By A. Britton Deyward, M.D. Reprinted from *The Post-Graduate.*

Medical Items.

MR. LAWSON TAIT contemplates removing from Birmingham to London.

DR. HERBERT J. HAMILTON, of Woodville, sailed for Europe, May 6th.

DR. ROBERT ARMSTRONG ROSS died in Barrie, April 27th, at the age of 42.

DR. W. HARLEY SMITH, of Spadina Avenue, is attending the convention of Y.M.C.A. secretaries at Minneapolis, Minn.

MR. GEOFFREY BOYD (Tor., '91) has been appointed surgeon to the Canada Pacific Railway's s.s. Empress of China.

DR. PEPPLER, of Queen street west, has gone to Johns Hopkins to take a special course in pathology under Dr. Welch.

DR. A. B. ANDERSON (Trinity, '92), late of house staff, Toronto General Hospital, has sailed for England to take a special course in pathology.

DR. J. E. GRAHAM, of Toronto, sailed for Europe, May 6th. He will spend three or four months on the continent.

DR. JAS. GRANT, jr., of Ottawa, left for England, May 5th. He expects to return in about two months.

AT the annual meeting of the Medical Faculty of the University of Toronto, held in April, Dr. Uzziel Ogden was elected Dean.

DR. CHARLES TEMPLE, who has been abroad for two years, is now in Toronto.

DR. ROBERT BARTHOLOW, who was seriously ill for some time, has recovered and resumed practice.

DR. WILLIAM SMITH, for many years a resident of Toronto, died recently in Hamilton, at the age of 93.

DR. H. A. BRUCE (Tor., '93), late of the house staff, Toronto General Hospital, has been appointed surgeon on the Canadian Pacific Railway's s.s. Empress of India.

DR. J. H. MCCASEY (Victoria, 1887) has been appointed Chief Superintendent of the Asylum for the Insane of the State of Kansas, at a salary of $3,500 per annum.

DR. J. J. CASSIDY, of Toronto, Chairman of Ontario Board of Health, has been made an Honorary Councillor of the British Empire for the International Congress of Hygiene and Demography.

DR. HIRAM A. WRIGHT (Vict., '85), of Detroit, Mich., paid a short visit to Toronto early this month. Dr. Wright holds the appointment of Inspector of Immigrants at the port of Detroit under the government of Uncle Sam.

THE staff of the Home for Incurables was considerably changed at the last annual meeting. Drs. Bruce Riordan and W. H. B. Aikins resigned from the active, and were placed on the consulting staff. Drs. Primrose and Acheson also resigned. The four vacancies on the active staff were filled by the election of Drs. J. E. Elliott, W. Lehmann, R. A. McArthur, and J. S. Hart.

DR. O. R. Avison, who has been associated in the Department of Therapeutics in THE PRACTITIONER since January, has left for Seoul, Korea, where he has entered the mission fields under the American Presbyterian Mission of New York. He has promised to let us hear of the medical and surgical diseases that are prevalent in Korea. He was accompanied by his family. We wish them all Godspeed and good health.

OFFICIAL BULLETIN OF THE PAN-AMERICAN MEDICAL CONGRESS.

The Executive Committee of the First Pan-American Medical Congress promulgates the following information :

(1) The First Pan-American Medical Congress will be opened under the presidency of Prof. William Pepper, M.D., LL.D., President of the University of Pennsylvania, at Washington, D.C., September 5th, and will adjourn September 8th, 1893.

(2) The countries officially participating in the congress are restricted to the Argentine Republic, Bolivia, Brazil, British North America, British West Indies (including B. Honduras), Chili, Dominican Republic, Honduras (Sp.), Mexico, Nicaragua, Paraguay, Peru, Salvador, Republic of Colombia, Republic of Costa Rica, Ecuador, Guatemala, Hayti, Kingdom of Hawaii, Spanish West Indies, United States, Uruguay, Venezuela, Danish, Dutch, and French West Indies.

Distinguished representatives of the profession from other countries are expected to be present as guests and to participate in the proceedings.

(3) The general sessions will be limited in number, one for opening and one for closing the congress, being all that will be held unless some necessity arises for a change in this particular. This arrangement will permit members to employ all of the time in the scientific work of the sections, which are as follows :

(1) General Medicine, (2) General Surgery, (3) Military Medicine and Surgery, (4) Obstetrics, (5) Gynecology and Abdominal Surgery, (6) Therapeutics, (7) Anatomy, (8) Physiology, (9) Diseases of Children, (10) Pathology, (11) Ophthalmology, (12) Laryngology and Rhinology, (13) Otology, (14) Dermatology and Syphilography, (15) General Hygiene and Demography, (16) Marine Hygiene and Quarantine, (17) Orthopædic Surgery, (18) Diseases of the Mind and Nervous System, (19) Oral and Dental Surgery, (20) Medical Pedagogics, (21) Medical Jurisprudence, (22) Railway Surgery.

The evenings will be devoted entirely to social features, the detailed announcements of which will be made by the Committee of Arrangements.

(4) Membership is limited to the members of medical profession of the western hemisphere, including the West Indies and Hawaii, who shall either register at the meeting or shall serve the congress in the capacity of foreign officers. No membership fee will be accepted from any member residing outside the United States. The membership fee for residents of the United States is ten dollars. All registered members will receive a copy of the transactions. Prominent students of the allied sciences will be cordially received as guests and as contributors to the proceedings upon invitation by the executive presidents of sections. Ladies' tickets will be issued upon application to registered members only, and will entitle the holders to reduced fare and to admission to all entertainments. Physicians of the United States should register at once, by remitting $10.00 to Dr. A. M. Owen, Treasurer, Evansville Indiana.

(5) Papers are solicited, the hope being entertained that the programme will be largely taken up with contributions from outside the United States. Papers may be read in any language, but a copy must be furnished for publication in either Spanish, Portuguese, French, or English, and must not occupy more than twenty minutes in reading. An abstract not exceeding six hundred words must be furnished the Secretary-General in one of the above four languages by not later than July 10th. Abstracts will then be translated by the literary bureau into the three remaining languages, and will be published in book form before the meeting of the congress.

(6) The Congress of the United States has adopted a joint resolution whereby all the governments of the western hemisphere have been invited by the President to send delegates to the First Pan-American Medical Congress, and has appropriated a liberal sum for the purposes of entertainment.

(7) The reduced fare offered by all transportation companies on the occasion of the World's Columbian Exposition to be held in Chicago will be open to all persons attending the Pan-American Medical Congress. The Committee of Arrangements will endeavor to secure still greater reduction to members travelling between Chicago and Washington, and an effort will be made to arrange either excursions or circular tours for those who may desire to visit the great universities of the United States. All such arrangements are open to subsequent announcement.

(8) By arrangement with the committee at Rome, the date of the Eleventh International Medical Congress has been so appointed that those who attend the meeting of the Pan-American Medical Congress may subsequently attend the former. The Pan-American Medical Congress will adjourn on the afternoon of September 8th ; a steamship will sail from New York on the following day, going by the Azores and Gibraltar, and enabling the tourist to reach Rome on the morning of September 20th, where the Eleventh International Congress will be opened on the afternoon of September 24th. It will thus be seen at a glance that in the period usually allotted to a summer vacation the medical tourist may spend a week at the World's Columbian Exposition, the next week at the Pan-American Medical Congress, the next week and a half with delightful companions in a voyage to the Mediterranean, the next few days in

witnessing the sights of Rome, and the following week at the Eleventh International Medical Congress. Special reduced rates for members and their families are given both ways on the trip to Rome, particulars of which will be furnished on application to the Secretary-General, 311 Elm Street, Cincinnati, Ohio, who is also a member of the American Committee of the Eleventh International Congress.

(9) The best possible arrangements will be made with the excellent hotels with which the national capital is abundantly supplied. The Committee of Arrangements will do its utmost to secure desirable rates and locations for members and their families. The headquarters of the Committee of Arrangements is at the Arlington Hotel, where communications may be addressed either to Dr. Samuel S. Adams, Chairman, or Dr. J. R. Wellington, Secretary.

(10) Copies of the official announcement of the congress, containing the regulations and the names of all officers and committeemen of the general congress and of the various sections, and residing in the various countries, may be obtained upon application to the Secretary-General, or to either of the members of the International Executive Committee, as follows:

Argentine Republic, Dr. Pedro Lagleyze, Calle Artes 46, Buenos Ayres; Bolivia, Dr. Emilio di Tomassi, Calle Ayacucho 26, La Paz; British West Indies, Dr. James A. de Wolf, Port of Spain; British North America, Dr. James F. W. Ross, 481 Sherbourne St., Toronto; Chili, Dr. Moises Amaral, Facultad de Medicina, Santiago; Costa Rica, Dr. Daniel Nunez, San José; Dominican Republic, Dr. Julio Leon, Santo Domingo; Ecuador, Dr. Ricardo Cucalon, Guayaquil; Guatemala, Dr. José Monteros, Avenida Sur No. 8, Guatemala City; Hayti, Dr. T. Lamothe, Rue du Centre, Port au Prince; Hawaii, Dr. John A. McGrew, Honolulu; Honduras (Spanish), Dr. Geo. Bernhardt, Tegucigalpa; Mexico, Dr. Tomas Noriega, Hospital de Jesus, Mexico; Nicaragua, Dr. J. I. Urtecho, Calle Real, Granada; Paraguay——; Peru, Dr. Manuel C. Barrios, Facultad de Medicina, Lima; Republic of Colombia, Dr. P. M. Ibanez, Calle 5a Numero 99, Bogota; Salvador, Dr. David J. Guzman, San Salvador; Spanish West Indies, Dr. Juan Santos Fernandez, Calle Reina No. 92, Havana; United States of America, Dr. A. Vander Veer, 28 Eagle street, Albany, N.Y.; United States of Brazil, Dr. Carlos Costa, Rua Largo da Misericordia 7, Rio de Janeiro; Uruguay, Dr. Jacinto de Leon, Calle de Florida No. 65, Montevideo; Venezuela, Dr. Elias Rodriguez, Caraccas.

CHARLES A. L. REED, *Secretary-General.*

Cincinnati, April 2, 1893.

THE PAN-AMERICAN MEDICAL CONGRESS.—The Section in Marine Hygiene and Quarantine has been organized as follows:—Honorary presidents: Dr. Lino Alarco, Lima, Peru; Dr. Henry B. Baker, Lansing, Mich.; Dr. Cardenas, Managua, Nicaragua; Dr. J. J. Cornilliac, St. Pierre, Martinique, F.W.I.; Dr. Felix Formento, New Orleans; Dr. H. B. Horlbeck, Charleston; Lieutenant-Colonel Amalio Lorenz, Sub-inspector of second-class Spanish Navy, Havana; Dr. F. Montizambert, Quebec, Canada; Dr. Francisco Nunez, St. Tecla, Salvador; Dr. Juan Ortego, Guatemala, Guatemala; Dr. Joseph Y. Porter, Jacksonville, Fla.; Dr. John Pringle, Kingston, Jamaica; Dr. Juan J.

Unoa, San José, Costa Rica; Dr. J. Mills Browne, Surgeon-General United States Navy. Executive president: Dr. Walter Wyman, Surgeon-General United States Marine Hospital Service, Washington. Secretaries: Dr. S. T. Armstrong (English speaking), 166 West Fifty-fourth Street, New York; Dr. G. M. Guitéras (Spanish speaking), United States Marine Hospital Service, Washington. The executive president desires to call the attention of all members of the medical profession interested in the topics pertaining to this section to the regulation of the congress that contributors are required to forward, not later than July 1st, to the secretary of the section, abstracts, not to exceed six hundred words each, of the papers they propose to present before the section. The topics that will be considered by this section are as follows: (1) The hygiene of vessels, commercial or naval, including the questions of ventilation, heating, sanitary arrangements, the disposal of cargo so as to facilitate disinfection, food supply, etc. (2) The medical officers of passenger vessels; methods for their selection, duties, etc. (3) The vital statistics of seamen and firemen; the question of the medical examination of crews preparatory to shipping. (4) The supervision of vessels by government medical inspectors at ports of arrival and of departure; code of rules for handling an epidemic disease that breaks out on shipboard; disinfection of passengers and crew during a voyage; location and arrangement of ships' hospitals. (5) Epidemic or exotic diseases propagated by shipping; what diseases should be quarantined; responsibility of nations for epidemics, India for cholera, South America for yellow fever; can a feasible plan be devised to totally exterminate cholera?; international intervention to prevent the propagation of cholera or other epidemic diseases by pilgrimages or immigration. (6) International uniformity in quarantine regulations; should quarantine officers be notaries public? (7) Arrangement of detail and equipment of quarantine stations: *a*, inspection stations; *b*, local quarantine stations; *c*, refuge stations; methods of handling infected or suspected vessels; interstate and inland quarantine: sanitary cordons, camps of refuge, camps of probation; recent improvements in hospitals for infectious diseases; railroad inspection and quarantine; length of time vessels should be held in quarantine; conditions that should determine proclamation of quarantine against a country; under what requirements may passenger traffic be carried on between a port infected with yellow fever and a southern port of the United States during the summer with the least obstruction to such traffic?; what merchandise should be considered as requiring treatment if shipped from a port or place infected with cholera, yellow fever, or smallpox. (8) Methods of disinfection: *a*, persons; *b*, baggage; *c*, cargoes; *d*, vessels; recent improvements in quarantine appliances, steam chambers, sulphur furnaces; liquid sulphur dioxide as a disinfectant; treatment of ballast, water, solid; what time should an infected vessel be detained in quarantine?: *a*, for cholera; *b*, for smallpox; *c*, for typhus fever; *d*, for plague; *e*, for yellow fever; methods of disposal of the bodies of those that die while in quarantine.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS will hold its sixth annual meeting at the Russell House, Detroit, Mich., on

Thursday, Friday, and Saturday, June 1, 2, and 3, 1893, under the presidency of Dr. Lewis S. McMurtry, of Louisville.

The following is the preliminary programme as far as titles are announced:

1. The President's Address: The Present Position of Pelvic Surgery. Dr. L. S. McMurtry, Louisville.
2. Abdominal Fixation .. .. Dr. Florian Krug, New York.
3. Endoscopic Tubes for Direct Examination of the Interior of the Uterus and Bladder .. .. Dr. Robert T. Morris, New York.
4. Placenta Previa .. .. Dr. Wm. H. Wenning, Cincinnati.
5. What are the Indications for Abdominal Section in Intra-Pelvic Hemorrhage? .. .. Dr. M. Rosenwasser, Cleveland.
6. Treatment of Metritis .. .. .. Dr. E. Pietranera, Cordova, A.R.
7. A Plea for Better Surgery in the Closure of the Abdominal Incision. Dr. H. W. Longyear, Detroit.
8. Remarks on the Treatment after Abdominal Section. Dr. C. C. Frederick, Buffalo.
9. The Management of the Abdominal Incision. Dr. Chas. A. L. Reed, Cincinnati.
10. Dilatation of the Cervix for Dysmenorrhea. Dr. E. M. Pond, Rutland.
11. Intra-Uterine Pregnancy, with Report of Cases. Dr. George S. Peck, Youngstown.
12. A Contribution to the Study of Ectopic Gestation. Dr. E. Arnold Praeger, Nanaimo.
13. A Few Practical Notes on the Establishment of Anastomosis between the Gall-Bladder and Intestine for Obstruction of the Common Duct, with the Relation of a case of Obstruction of the Common Duct by Small Growth .. .. Dr. James F. W. Ross, Toronto.
14. Vaginal Hysterectomy for Malignant Disease. Dr. Rufus B. Hall, Cincinnati.
15. The Care of Pregnant Women .. Dr. John Milton Duff, Pittsburg.
16. A Contribution to the Pathology of Surgical Disease of the Gall-Bladder. Dr. Walter P. Manton, Detroit.
17. The Legal Questions in Gynecological Operations on the Insane. Dr. Walter P. Manton, Detroit.
18. Pelvic Abscess .. .. Dr. I. S. Stone, Washington.
19. Central Rupture of the Perineum, its Causation and Prevention. Dr. John C. Sexton, Rushville.
20. A Case of Myomectomy with Extra-Peritoneal Treatment of the Pedicle, followed by Pregnancy, and Complicated by Hemorrhages through the Abdominal Cicatrix .. .. Dr. X. O. Werder, Pittsburg.
21. Anatomy and Surgical Importance of the Peri-Renal Cellulo-Adipose Tissue .. .. Dr. L. H. Dunning, Indianapolis.
22. Report of Cases from Practice, with Remarks on the Same. Dr. A. Vander Veer, Albany.
23. Further Observation on the Relation of Pelvic Disease and Psychical Disturbances in Women .. .. Dr. George H. Rohé, Catonsville.

A cordial invitation is extended to the members of the medical profession interested in the work of the association to attend its several sessions.

By order of the Executive Council.

WILLIAM WARREN POTTER, *Secretary.*

THE CHICAGO WORLD'S FAIR.—At a meeting of the joint committee of the Chicago medical profession on the World's Fair entertainment, held at the Sherman House in November, 1892, the establishment of a bureau of information and service was delegated, with approval and indorsement, to Charles Truax, Greene & Co., the committee reserving to itself the duty of such social entertainment of visiting physicians during the continuance of the exposition as might seem desirable. This action was confirmed at the final meeting of the joint committee on February 25, 1893, and, on application of the Practitioners' Club and the South Side Medical Club, the matter of social entertainment was delegated to them, with full authority to act in the capacity of entertaining bodies, with the retention of the chairman and its American and foreign secretaries already appointed: Chairman, Dr. C. Warrington Earle; American Secretaries, Dr. Archibald Church, Dr. G. Henry Cleveland, Dr. John C. Cook, Dr. J. C. Culbertson; British, Dr. Sanger Brown; German, Dr. F. C. Hotz; French, Dr. Fernand Henrotin; Spanish, Dr. E. J. Gardiner; Italian, Dr. A. Lagario; Swedish, Dr. K. Sandberg; Canadian, Dr. R. D. McArthur.—*N. Y. Medical Journal.*

AT a largely-attended meeting of the Brant County Medical Association, held at the John H. Stratford Hospital on Wednesday, March 8th, 1893, the following resolution, moved by Dr. U. M. Stanley, Brantford, and seconded by Dr. Addison, St. George, was unanimously adopted, viz.: "That this association desires to place on record its strong disapproval of the methods adopted by an association called the Medical Defence Association in its attack upon the Medical Council; and whilst believing that grounds may exist for difference of opinion as to the advisability of certain acts of the council, nevertheless it has secured for the profession a very complete and solid organization, which is the admiration of the other provinces and states upon this continent; that this association trusts that the legislature will be slow to make any very radical alterations in the constitution or government of the council, believing that if the changes set forth in a circular note of the Medical Defence Association, dated January, 1893, or any considerable number of them, should be adopted, it would be detrimental to the best interests of the profession and the public, and materially hamper the usefulness of the council and destroy the object for which it was first instituted." M. J. KEANE, M.B, Secretary Brant County Medical Association.

DR. J. HERSCHBERG, of Berlin, in a series of letters which appeared in the *Deutsche Medizinsche Wochenschrift*, in describing a trip around the world, makes the following allusion to Toronto: "I crossed the North American continent this time by a different route from that taken on a previous occasion, namely, a fourth by water over the great inland lakes, and then by the Canadian Pacific Railway to Vancouver. I remained some days in Toronto. Here is a state university, with magnificent buildings. Canada has in the last few years made great progress in all directions. In the biological laboratory of the university I found German apparatus for the study of bacteriology, and even German microscopes. We at home consider Canada to be cold and inhospitable. The course of the Canadian Pacific Railway, however, is about in the same latitude as Wiesbaden. It is certainly quite cold in winter in Canada, but very hot in summer."

A LITTLE English lord went over to hunt with the good old Ward hounds (I know every dog of them) this season. He did it, not from love of hunting, but because his doctor told him that the finest thing for the inside of a man was the outside of a horse. So fox-hunting the little lord would go. The fox went a rattling spin from Tara to Dunshaughlin, and the little fellow held on bravely, telling himself "it is the pace that kills," though whether he meant that for the fox or himself isn't quite clear. Anyhow he was the last of the field, except Lady Hasketh, who, on entering a stiff bit of field, found the little man sitting under a hedge, holding his head and groaning dismally. His gallant hunter had started off after the brush, and left him lamenting. "Dear, dear!" cried the lady, reining in as she anxiously enquired, "Have you hurt your head?" "My head? Thanks, no," replied the little man, "quite the reverse!"—*Toronto Mail.*

MR. GLADSTONE ON MEDICAL FEES.—There seems to be no end to Mr. Gladstone's feats. He has favored the public with another great speech—that on bi-metallism, in the course of which he remarked that many things had risen in value in late years. Oddly enough, among the few things he instanced was the remuneration of medical men. "No one is aware of the increase of fees in the medical profession, and I am bound to say that there are none more nobly earned in the world."—*Medical Record.*

THE KANSAS WAY.—The following appears at the foot of a bill-head of a Kansas physician. It is unique, original, and pointed, and, we presume, effective: "A prompt settlement of this bill is requested. If bills are paid monthly, a discount of ten per cent. is given. Bills not paid promptly will be passed to my attorney for collection. If you pay your physician promptly he will attend you promptly, night or day, rain or shine, while your slow neighbor suffers and waits, as he made the doctor wait, and while he is waiting the angels gather him in."—*Kansas Medical Journal.*

BANDAGING THE EXTREMITIES IN COLLAPSE.—Many regard the procedure of bandaging the extremities in collapse as a modern procedure. But Alexander of Tralles advised ligatures to the arms and hands for the relief of purging, and Garcia d'Orta, in his work on the simple drugs of India (printed in 1563), states that the Hindoo treatment for the cramps and purging of cholera was to put a tight band around the head and to bandage the legs very tightly.—*N. Y. Medical Journal.*

A CHILD SWALLOWING A LOCOMOTIVE.—A mother brought in her arms a beautiful infant of ten months, telling me it had swallowed a steam-engine. The patient sat in her arms sucking its fingers and smiling at me, while the mother told of the tragic occurrence. "What, wheels, funnels, and all?" I asked. "Yes," added the mother. "Well, madam, it seems to have agreed with it up till now; keep a good lookout." In a few days she brought the engine in triumph. It was like the image that Nebuchadnezzar set up in the plain of Dura, all of gold and had running wheels. I said, "Madam, that is fortunate, for that locomotive has passed safely through a long, dark tunnel, and has not left a tender behind."—*Birmingham Medical Review.*

THE
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Original Communications.

A FEW PRACTICAL NOTES ON THE ESTABLISHMENT OF ANASTOMOSIS BETWEEN THE GALL BLADDER AND INTESTINES FOR OBSTRUCTION OF THE COMMON DUCT, WITH THE RELATION OF A CASE OF THE OBSTRUCTION OF THE COMMON DUCT BY A SMALL GROWTH.*

BY JAMES F. W. ROSS, M.D. TOR.,

Lecturer in Gynecology in the Woman's Medical College; Gynecologist to St. John's Hospital, Toronto General Hospital, and St. Michael's Hospital.

READING with a great deal of interest a paper of my friend, Dr. J. McFadden Gaston, of Atlanta, Georgia, on "The practicability of establishing an artificial fistulous opening in the human subject between the gall bladder and the duodenum," I determined that as soon as an opportunity presented itself I would carry out the procedures of the operation as outlined by him in that article.

Having some time previously operated on a case of gallstone impacted in the cystic duct, I concluded that cases would be met with in which the operation of incising the duct and removing the stone would not be practicable. Some time after this a patient from the country consulted me regarding a lump in the right hypochondriac region. This growth was accompanied by profound cholemia, together with a dilated condition of the stomach. From the patient's age, between seventy and seventy-five, and her cachectic appearance, together with the pain present in the tumor, the size of the tumor, with the irregularity of its surface and the dilatation of the stomach, I concluded that the case was, in all probability, one of malignant disease affecting the pyloric end of the stomach, compressing the common bile duct, and thus producing the symptoms present. I was supported in this view by another practitioner. We advised against any operative procedure; the patient looked very frail, and as if on the verge of the grave. I had not forgotten the lesson taught by the cases of others simulating malignant disease ; but I concluded that in this case, at least, I had to do with malignant growth. The time passed by, and I heard nothing more of the patient. One day a gentleman appeared at my office, and in the course of conversation began making enquiries regarding the case of his mother. After we had gone over the case together, he drew out from his pocket a large pill-box, from which he removed a very large gallstone. This, he told me, was the cancerous disease found at the *post-mortem* examination upon his mother. He seemed to have the idea that the abdomen of women of seventy or seventy-five, in the last stages of cholemia, with distended gall duct, could be opened and a stone removed from the midst of dense adhesions without the least danger. Had I known that the enlargement was due to the impaction of a gallstone, I would certainly have refused to operate. However, this was a lesson not to be forgotten and one to be treasured.

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* Read before the American Association of Obstetricians and Gynecologists in Detroit.

However, on the 14th of December, 1892, my friend, Dr. Cotton, of Toronto, brought to my office a young woman twenty-six years of age, very yellow in color, and suffering from an intense jaundice ; her tongue was fairly clean, her urine, she said, was dark-colored, while her stools were pale and clay-like. She suffered considerably from heartburn ; she had very little pain. During the last winter she had a severe attack of pain at the pit of the stomach ; this lasted for one day. The pain was so severe at the time that for some days the edges of the ribs felt sore. Three months ago jaundice came on ; it gradually deepened. She suffered from pain behind the shoulder and from vomiting. The pain was very nearly as severe as it had been the year before. For the last two months the motions had been light in color ; the urine stained the clothing yellow; yellowness of the skin came on; she had some bleeding at the nose, but she thought not more than she had been accustomed to. She had been married six years, and had one child.

On examination, a hard nodule could be felt about one inch and a half below the tip of the ensiform cartilage, a little to the right of the median line. Further toward the loin a movable, smooth, tense fluctuating swelling could be readily made out, corresponding in outline to a distended gall bladder. The nodule referred to was hard, and a cord could be felt running from it toward the gall bladder, and this cord proved to be the common duct. From the symptoms of the case, together with the previous attack of colic one year before, I diagnosed obstruction of the common duct by an impacted gallstone. The liver was enlarged, and extended about an inch below the free border of the ribs on the right side.

As I was going to the meeting of the Clinical Society that evening, Dr. Cotton and I decided to exhibit the case. She consented, and during the evening she was presented to the society. The lump was felt by several members, and the gall bladder itself was readily made out. I mentioned the fact that I had already been in error in the case previously related, but thought that this time there could be no doubt about the diagnosis. Operation was decided on, and on the 19th of December, 1892, assisted by my friend, Dr. A. H. Wright, I opened the abdomen along the margin of the ribs on the right side. Bleeding from the wound was rather troublesome; the liver was found much enlarged; the gall bladder very much distended; and the hard mass previously felt was found to be evidently in the common duct. On closer manipulation this mass did not feel hard enough for a stone; it was smooth and rounded; but for all that I determined to make the diagnosis by means of a needle. The needle passed down into the mass, did not strike any hard tissue, and its withdrawal was accompanied by a discharge of blood that seemed to be more profuse than would follow puncture of a gall duct with an impacted stone. I now decided that, notwithstanding the small size and deceptive appearance of the lump, it must be a growth, but I feared that subsequent *post-mortem* examination might even yet prove that I was mistaken.

I now opened the gall bladder, emptied it of very dark treacly-colored bile, explored its interior, fastened it to the abdominal wall, and washed it out. Fresh bile began at once to flow through the gall bladder. The common duct was distended to the thickness of a man's thumb, and the bile ducts and the liver were found to be distended in corresponding proportion. Had the obstruction in the common duct been due to the impaction of a stone, I doubt very much the advisability of incision of the duct for its removal under such circumstances. I now decided to drain the gall bladder, and by permitting of the external flow of bile to relieve the jaundice. The wound was closed after all hemorrhage had been checked. A drainage tube was fastened in the opening in the gall bladder, and the end of it was carried some distance beyond the dressings. During the next few hours the pads over the drainage tube were soaked with bile. The patient's nose bled and blood was spit up; this showed the hemorrhagic tendency.

About twenty-four hours after the operation secondary hemorrhage from the incision set in. Pressure was applied, and the sutures were tightened by means of forceps; perchloride of iron was used, but the hemorrhage still continued. Forty-eight hours after the operation the patient was again placed on the table, chloroform was administered, and the wound was reopened throughout its entire extent, except at the point of insertion of the gall bladder. The hemorrhage was now found to be a general oozing from the cut surface of the right rectus muscle, and to stop this it was necessary to pass two sling sutures around the muscle above and below the incision through it. These were tightened and the ends of the muscle were held against the abdominal wall, and in this way the bleeding was checked. The patient then made an uninterrupted recovery; the wound healed, strange to say, by first intention; the fistulous opening in the gall bladder contracted down until it would barely admit a probe. The epistaxis continued from time to time, but did not give rise to any alarm. The patient gradually changed color, and soon all evidences of jaundice had completely disappeared. On two or three occasions some blood was found mixed with the bile. The urine became a lighter color.

During the performance of the second operation for the control of the hemorrhage, I had a good opportunity of examining the manner in which nature walls off the point of invasion of the peritoneum from without, and protects the system from the introduction of foreign matter. The intestines were adherent around the opening, and the liver was covered with adhesive lymph. The patient was soon able to walk around, but complained bitterly of the inconvenience of the bile-stained pads. Had it not been for this fact, I should have refused to do anything further. I advised her to go home for a couple of months, and to return at the end of that time. This she refused to do, and begged of me to perform some further operation for the closing of the fistulous opening.

As Dr. Gaston's operation had been done by himself successfully on dogs, I decided to produce, if possible, an anastomotic opening between the duodenum and the gall bladder by the means recommended by him, namely, the use of an elastic ligature. A piece of strong elastic was procured that would thread a small needle. On the 1st of February, 1893, the abdomen was opened just below the line of the old incision. The right rectus muscle was divided. The parts were dissected off with care, and it was found that the general peritoneal cavity had been shut off from the site of the previous operation by very firm adhesions. It would have been impossible to reach the growth with any degree of safety through these adhesions, as the liver had diminished in size, and the growth, together with the common duct, had been drawn up under the ribs. The duodenum was found lying close to the gall bladder, and through its wall the needle with the elastic ligature was passed, while the thread was held on the stretch by my assistant. The needle was then passed through the wall of the gall bladder. About half an inch of duodenal and gall-bladder wall was now included in the loops thus made. The stitch was drawn tight and firmly tied, the ends were cut off short, and the abdomen was again closed with silkworm gut sutures.

The fæces were watched for bile, but, much to my disappointment, no bile appeared. One day my assistant thought he obtained the reaction for bile with nitric acid, and the nurse thought the fæces looked tinged, but only to a very slight extent. For a time the discharge of bile now seemed to diminish. This diminution may, however, have been more apparent than real. The nurses noted on the history paper frequently, "Pads changed, less discharge." The wound healed by first intention.

On the sixteenth day after the operation, as the patient was becoming disappointed, I passed a probe into the gall bladder through the fistulous opening, and found what felt to me like a portion of the elastic ligature. I passed the probe into the wall of the gall bladder, and found that it readily perforated the wall, and went through, apparently, into the duodenum. The probe was fastened in this position, and left there for two or three days, but still I could see no greater evidence of the discharge of bile by the bowel than before. I therefore dilated the fistulous opening into the gall bladder, passed in my little finger, and felt the opening through the wall, but could not feel any elastic ligature.

As the patient's husband had become seriously ill, she now left the hospital. I was annoyed at this, because with the dilated opening into the gall bladder, and thus having a ready access to its interior, I felt sure that I could now complete the formation of the fistulous opening without difficulty. The patient did not return for two weeks. After her return blood was noticed mingled with the discharge of bile. This gradually increased. Pressure on the gall bladder failed to arrest the hemorrhage. It oozed out drop by drop from the opening into the gall bladder. Thinking that it might, perhaps, be due to hemorrhage from the edge of the gall bladder, I touched this with the actual cautery without producing any perceptible effect. Though the probe passed through the gall-bladder wall, no fæcal matter and no intestinal flatus came through. Thinking that, perhaps, the hemorrhage came from the gall-bladder wall, I injected styptics, beginning with a saturated solution of alum, and ending with a solution of the perchloride of iron and water. These had no effect, excepting that they produced coagulation of the blood. The patient complained that the solutions produced pain in the shoulder similar to that experienced before the gall bladder was opened. As the bleeding still continued, I determined, if possible, to find out the cause. I felt afraid that the elastic ligature had lacerated into some small vessel. I therefore re-dilated the gall bladder and explored its interior, but concluded that the blood was coming from the direction of the cystic duct. I now packed the gall bladder with iodoform gauze. This checked the hemorrhage, to a certain extent, for a time, but it soon oozed through as rapidly as ever; and the patient complained of such pain in the shoulder from this distention of the gall bladder by the packing that I was forced to remove it. The patient died on the 9th of March from the effects of the continuous hemorrhage.

Post-mortem examination report made by Dr. N. A. Powell, one of the pathologists of the Toronto General Hospital.

Abdomen opened in the middle line, and the skin reflected so as to expose the site of the operation at the free border of the ribs on the right side. A clot three inches long by one and a half inches wide, conical in shape, found occupying an opening through the abdominal wall. On tracing this down it was found situated in the gall bladder, the latter being attached to the skin by firm adhesions. The clot was firm, such as results from the action of the perchloride of iron on the blood when applied as a styptic. A cavity sufficient to hold two and one-half ounces of fluid was found when the clot was removed. On inspecting the interior of the gall bladder, an opening was found through the wall among dense adhesions in the peritoneal cavity. This opening was large enough to admit a No. 20 French catheter, and lay to the front and to the right of the common bile duct, with the duodenum lying immediately beneath it adherent to the gall bladder and abdominal wall. This had evidently been made by some instrument some time before death. Situated behind and to the left of the duodenum and common bile duct, pressing upon the bile duct in such a manner as to easily occlude it, was found a growth as large as a walnut, firm, elastic, and smooth. No trace of the elastic ligature that was said to have been used for the purpose of producing anastomosis could be found. The liver, on being divided, bled very freely. There were no evidences of any general peritonitis, and the seat of the operation had practically become extra-peritoneal by the dense adhesions that had formed around the opening. The stomach contained a quantity of dark fluid. The only trace of any opening made by the elastic ligature was the sinus above mentioned. The duodenum, where stitched, must have healed as the elastic ligature worked itself away toward the interior of the gall bladder. The duodenum was firmly adherent to the gall bladder at the site of the elastic stitch. The gall bladder was pervious to a hard substance such as a probe, but would not permit of the passage of the bile owing to the pressure of the growth.

The hemorrhage evidently came from the liver, and not from the site of the insertion of the elastic ligature. Two or three ounces of blood were discharged from the cut surface of the liver.

On microscopical examination, the tumor was found to be a glandular epithelioma.

The loss was slow but sure. As shown by the *post-mortem* examination, it would have been impossible to check it.

I have now related this case at some considerable length, hoping that it may produce some discussion that will be of benefit to us all. There are several questions that arise in the mind of the surgeon, such as: First, what is the best means ot producing anastomosis between the gall bladder and the intestine? Secondly, is it better to open and drain the gall bladder, and to allow the patient to live out his or her life with a permanent fistula, or to attempt to produce an anastomosis in such a case as the present one; that is, in a case in which we have to deal with an obstruction of the common duct due to a malignant growth? Thirdly, in obstruction of the common duct by the impaction of gallstone of large dimensions, with the patient profoundly cholemic, is it better to leave the stone *in situ*, to open and drain the gall bladder, with the intention of producing a subsequent anastomosis, between the gall bladder and intestine, or to incise the duct and remove the stone at the first operation? As to the methods of producing anastomosis, I will in future resort to direct incision and direct suture. The elastic ligature in this case did not fulfil my expectations. The peritoneal cavity at any secondary operation is so shut off by adhesions that a slight escape of bile or fæces after the direct incision of the duodenum or gall bladder cannot be of any serious moment if proper drainage through the external opening is provided. I thought of various devices for carrying out this anastomosis. I procured plates after the model of the intestinal anastomosis plates and thought of incising the bowel, passing in a plate and then passing the ligatures through the bowel and gall bladder, and of bringing them out of the original opening into the gall bladder and holding them in place by means of a pair of artery forceps passed into the gall bladder through this external opening until firm adhesions had formed. I then intended to incise the gall-bladder wall over the opening in the intestinal anastomosis plate that could be readily felt with the little finger, passed into the gall bladder. On more mature consideration, I concluded that hemorrhage might readily result from such an incision, and that such a hemorrhage might be very difficult to control. It is better to have the hemorrhage occur as the consequence of incision at the time when it can be readily controlled.

In reply to the second question, I believe that it would be better to open the gall bladder, establish a fistulous opening and allow the bile free exit, and to do nothing more in these cases of malignant growth.

In answer to the third question, I feel sure that with a patient in a conditon in which this patient was originally found, with jaundice, enlarged liver, and enormously distended gall ducts, it would be better to drain the gall bladder for a time before carrying out any further procedures. In this way the gall ducts become diminished in size, and there is much less danger of the subsequent extravasation of bile into the peritoneal cavity. Owing to the free egress of the bile through the cystic duct and gall bladder, no tension will be put upon the sutures applied to the incision required in the common duct. If an anastomosis can be readily made at some subsequent period, the presence of a gallstone is not likely to be a very serious inconvenience.

I would remark that, according to my experience, wounds in bile-laden tissue heal readily, and with very little evidence of inflammatory action. A great tendency to hemorrhage is, however, to be noted.

Quoting from Gaston, I find that he gives credit to Neussbaum for first suggesting operation for the relief of occlusion of the common bile duct by conveying the bile into the intestinal canal through an artificial opening between the gall bladder and intestine, and he gives credit foi having first accomplished these results upon the human being to Von Winiwater. Von Winiwater subjected a patient to six different operations for the formation of a fistula between the gall bladder and the colon. So that I need not feel badly over the result in my own case. As far as I know, my own case is the second on record in which the elastic ligature has been used for the purpose of establishing a cholecystenterostomy on the human subject, and I am sorry that it failed to establish the fistula.

Gaston gives a very interesting report of the progress of the operation of cholecystenterostomy. In 1887 Mownastyrski united the gall bladder with the duodenum by a direct suture, excision of a portion of both jejunum and gall bladder by puncture, and union of the edges with catgut. The patient survived, but died subsequently of the progress of the cancer that was found *post mortem* at the head of the pancreas.

Keppler's operation was done in July, 1887. The gall bladder and the ileum were united by direct suture. The patient progressed favorably for a time, but died fourteen months after the operation.

Fritsche, in the year following, established a fistulous opening from the gall bladder and the jejunum. At the *post-mortem* examination a carcinoma of the size of a wulnut was found at the mouth of the common bile duct. I may here state that this case was identical with my own.

Gaston goes on to say that Socin and Bardenheur each attached the gall bladder to a loop of small intestine. The case of the latter died in the fourth week, and no fistula was found. It is said the operation was done with the elastic ligature. This latter is a point of considerable value, as the experience of Bardenheur coincides with mine in the non-establishment of the fistulous opening, though the patient lived long enough to have permitted of the formation of such a fistula.

Robson operated in 1889 on a patient who had been previously subjected to cholecystotomy. The gall bladder and colon were subsequently incised and united, and a drainage tube inserted in the wound. After one day bile came out of the drainage tube mixed with fæces. The appearance of bile in the fæces is reported to have subsequently been noted.

In 1889 Terrier operated for relief of occlusion of the common duct. A stone was found in the common duct that could not be removed, the gall bladder was attached to the jejunum, a drainage tube passed through from the outside of the gall bladder into the duodenum, and the fundus of the gall bladder was sutured to the lower angle of the external incision. The drainage tube passed off with the evacuations nine days after the operation.

Courvoisier next operated, and united the gall bladder to the colon. The patient did well.

There is another case reported operated on by Helferich. An opening was established between the duodenum and the gall bladder. The method was by direct suturing. Chavasse, of Birmingham, used Senn's bone plates, and made a communication between the gall bladder and the colon. At first bile and fæcal matter were discharged through the abdominal wound, but the patient ultimately improved. Korte also united the gall bladder with the duodenum.

At the time of Gaston's report in the *Medical News*, June 11th, 1892, there had been seven cases operated upon with one death, but the death was not attributable to the operation. Among these one case was operated upon with the elastic ligature, and was not successful. I now have to add another.

My time has been so occupied that I have been unable to search through the literature of the past year for any other cases that may have been reported. Taking all these facts into consideration, there can be no doubt that the operation of cholecystenterosotomy has come to stay; that it is an important operation that is likely to be performed more frequently in the future than in the past; that it is virtually attended with a very low mortality; and that it has been successful in a large enough number of cases to prove that the operation can be of benefit to men, as well as to the lower animals.

Courvoisier gives the following indications for the operation: First, when biliary fistulæ are difficult of removal, whether they be traumatic, ulcerative, or operative; secondly, any permanent obstruction of the common bile duct, except in cases of gallstones; and, thirdly, in traumatic and ulcerative communications between the common duct and the abdominal wall. In the three questions recited in the early part of this paper, with the answers given, I have expressed my views on the subject.

No.	Name of Operator.	Date.	Disease for which done.	Immediate or secondary operation.	Method by which done.	Result.	Portion of intestine united.	Leakage.
1	Von Winiwater.	1880.	Obstruction of the common duct.	Six attempts made.	Direct suture.	Fistula established.	Small intestine.	
2	Mownastyriski.	June 14, 1887.	Carcinoma of the head of the pancreas.	Immediate.	Direct suture.	Fistula established.	Jejunum.	
3	Kepeller.	July 6, 1887.		Immediate.	Wolfler's suture.	Fistula established.	Ileum.	
	Fritsche.	1888.	Carcinoma at the mouth of the bile duct.	Immediate.	Direct suture.	Fistula established.	Jejunum.	
5	Socin.					Fistula established	Small intestine.	
6	Bardenheur.				Elastic ligature.	Fistula not established.	Small intestine.	
7	Robson.	March 2, 1889.	Obstruction of the common duct.	Secondary to cholecystotomy.	Direct suture.	Fistula said to be established.	Colon.	Bile and fæces from drainage tube
8	Terrier.	July 13, 1889.	Impacted gallstone.		Immediate suture.	Fistula established.	Duodenum.	
9	Courvoisier.		Gallstone in the common duct.	Secondary to cholecystotomy.	Immediate suture.	Fistula established.	Colon.	
10	Helferich.	Feb. 25, 1892.	Calculi in the common duct.		Immediate suture.	Fistula established.	Jejunum.	
11	Chevasse.	1892.	Obstruction by gallstone.	Secondary to cholecystotomy.	Bone plates and immediate suture.	Fistula established.		Bile and fæcal matter.
12	Korte.						Duodenum	
13	J. F. W. Ross.	Feb., 1893.	Malignant growth, size of walnut, obstructing common duct.	Secondary to cholecystotomy.	Elastic ligature.	Fistula not established.	Duodenum.	

(TRANSLATION.)

HEREDITARY ATAXIA (FRIEDREICH'S DISEASE).*

By Prof. H. Senator.

Translated by

W. Lehmann, M.B.,

Physician to House of Providence and Home for Incurables.

Gentlemen,—The patient that I here take the liberty of presenting to you is a nineteen-year-old young man from the country. His father is perfectly healthy. His mother died four years ago of inflammation of the lungs. Of the patient's five brothers and sisters, one, a sister, now thirty-two years old, has suffered since childhood from precisely the same disease that he has, only that on account of the longer duration it is now in a much more advanced stage; so much so that she can scarcely move about, and mostly sits or lies down. A sister of the patient's mother had, in consequence of gout, very much deformed hands. Of the beginning of his own disease the patient can say nothing. His gait has been bad ever since childhood; still he was able to go to school, and later to occupy himself as a gardener. It is only during the last year that the trouble has so increased as to render him unable to do even small jobs about the house and fields. You see now a young man, for his age, well developed, with strong frame, good bone, and well nourished; weight 138 lbs. His intelligence is up to the average of his station in life, and his handwriting just what might be expected from a man of his education. After long and close observation, nothing abnormal has been found in his mental condition. The internal organs are all healthy, and repeated examinations of the urine show nothing abnormal. There has never been any fever. The most striking features of the case are exhibited while standing or walking. You see that while standing even with open eyes he reels and staggers; on account of which he stands with his legs wide apart, and is inclined to hold fast to some object to steady himself by. With closed eyes the reeling becomes worse, and he seems in danger of falling *backwards*. His gait is wide-legged, uncertain, perhaps very slightly stamping, and somewhat zigzag, the body being inclined to overbalance; turning while walking increases the staggering; in short, very much like the gait of a drunken man. After long standing or walking he trembles and becomes dizzy, and, indeed, often complains of dizziness at other times. While sitting there is no trace of the reeling to be seen, and while either sitting or lying down he can perform all the ordinary movements with his legs. Other symptoms which could properly be called ataxic movements are never present. The muscles of the legs are very well developed, perhaps somewhat more than normal, and feel firm, but have not the qualities one observes in the pseudo-hypertrophy of children. The sensibility in the legs is complete, the cutaneous reflex normal, and there is no ankle clonus. The cremaster and abdominal reflexes are very strong; but, on the contrary, the patella reflex is very much weakened, sometimes altogether absent. There is nothing abnormal in the upper extremity. The head is well formed, and the face exhibits nothing abnormal—neither motor nor sensory disturbance. The pupils react in the normal way, but there is a slight horizontal nystagmus. The tongue, otherwise normal, exhibits, when protruded, slight fibrillar twitching, but not always. Nothing abnormal can be found in the muscles about the pharynx, and the laryngoscope shows nothing abnormal in the larynx. On the other hand, the speech is slow, waiting, dull, and somewhat monotonous, as if he had to think for a long time before getting anything out, and gives one the impression of mental weakness; but, as before said, the most careful observation has failed to detect any mental disturbance or weakness. All the organs of sense have their normal functions; the same also with the bladder and rectum. The electric examination shows only a slight diminution of irritability in the thigh and leg, so that it requires a somewhat stronger current to produce contractions.

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* Read before the Medical Society of the Charité Hospital, Berlin.

From this examination and history, and having regard to etiological conditions, the clinical diagnosis cannot be doubtful. We have here before us a case of hereditary ataxia—that disease which was first described by Friedreich, and therefore rightly bears his name; and indeed this case represents the disease in its purest form, and as we seldom have an opportunity of seeing it, and as it is not often described. It therefore deserves especial attention, and is capable of contributing something towards the thorough explanation of the disease.

In the thirty years which have elapsed since Friedreich's first communication, there have been a very considerable number of cases described which exhibited symptoms not mentioned by him, and also many cases in which symptoms which he considered essential have been wanting; so that it has now become a custom to describe almost every case of weakness and stiffness in the lower extremities, commencing in childhood and accompanied by any kind of disturbance of co-ordination, as Friedreich's disease, although the etiological conditions may be altogether different.

Friedreich's disease is characterized by the following complex of symptoms, beginning in childhood or puberty, based on inherited predisposition, and slowly extending and developing themselves: Weakness and uncertainty in the legs, with a characteristic "static" ataxia, differing from such other forms of ataxia as occur in tabes dorsalis, etc., by dullness of speech and nystagmus, by either increase or lessening of the patella reflex, and by absence of all sensory disturbance, disturbance of function of bladder and rectum, and of immobility of the pupil. Our case presents exactly this complex of symptoms, neither more nor less, and has also the etiological condition of inherited predisposition.

Accordingly, no differential diagnosis is necessary from other diseases in which one or more of the above-mentioned symptoms occur; such as tabes dorsalis, multiple sclerosis, or, if we take thought of diseases occurring under similar etiological conditions, from chorea infantilis, and the choreatic spastic paralysis occurring in childhood, or, finally, from Thomson's disease, although one might think of the latter on account of the striking firmness of the muscles of the legs, but the similarity goes no further.

There is only one affection, viz., Gowers' ataxic paraplegia, which I would like to consider more closely, because it has lately been brought into certain relation with Friedreich's disease. This disease has, according to the descriptions given chiefly by Gowers in his splendid work on nerve diseases, a similarity, on the one hand, with tabes dorsalis, and, on the other, with spastic spinal paralysis. It is spastic paralysis, plus ataxia. It often depends on a combined disease of the lateral and posterior columns, but not always in the type of the so-called "combined system disease"; and has, according to Gowers, a great similarity to Friedreich's disease, which he looks upon as a combination of ataxic paraplegia and tabes.

Now, it is true that disease of the posterior and latter columns, in more or less exact systematic extension, has been found in cases of Friedreich's disease, first by Kahler and Pick in 1878, and later by others; and in consequence the idea has prevailed that Friedreich's disease is essentially a "combined system disease" of the spinal cord. But I cannot agree with this idea. I have not the time here now to enter deeply into the, by no means thoroughly discussed, question of "combined system diseases." That, I must reserve for another opportunity; but I wish to assert, not only on the ground of what has occurred in literature, but also my own experience, obtained from five cases of the so-called "combined system disease" with sections, that the picture presented by these cases has very little similarity to pure, uncomplicated Friedreich's ataxia. I here show you preparations and drawings from the spinal cord of four of my cases, and beg you to compare them with the different drawings of the condition of the cord of Friedreich's disease, which I now lay before you, taken from literature. You will find that in my cases the degeneration, the sclerosis, exhibits almost all the way through a much more typical arrangement than in the cases in Friedreich's disease; that, especially those systems from whose participation one would seek to explain the characteristic symptoms of Friedreich's disease, the columns of Gall and Burdach, and also the lateral pyramidal tracts, are attacked from the lumbar to the cervical portion; and therefore in an anatomical respect these cases answer very well to what one would demand and expect from the prevailing idea of Friedreich's disease. But the clinical picture does not in any way answer to the case which I have presented here to-day, and which, I repeat, represents the disease in a pure and uncomplicated form. And it is only such cases that can be taken into account when establishing the existence of a disease.

In those cases of "combined system disease" whose preparations and drawings you see here, as well as in all cases described under this name, one immediately gets the impression of a disease of the spinal cord, or at any rate a chronic neuritis. Nothing whatever of this impression is produced by our patient, but one is at once reminded of disease of the cerebellum. Chiefly the oscillation on standing, the characteristic staggering gait, which has nothing in common with the spasmodic ataxic movements of tabes, are highly characteristic, and simulates very closely what, one might say, is to be seen in every case of disease of the cerebellum. The striking likeness of this characteristic "static" ataxia of Friedreich's disease with that of disease of the cerebellum has, of course, not been overlooked by other observers; but it seems to me that it has never been propperly estimated, always having been overshadowed by the supposition of disease of the cord. Hammond alone is inclined to look upon the medulla oblongata as the primary seat of the disease, with extension into the cerebellum. The other typical symptoms also are such as are usually observed in disease of the cerebellum, and indeed are held to be characteristic of it, viz., dizziness, the characteristic disturbance of speech, nystagmus, absence of all disturbance of sensibility, and also diminution or exaggeration of the patella reflex. On the assumption of a cerebellar disease we can explain all the symptoms of our case, and these are the essential symptoms of Friedreich's disease; while the assumption of a disease of the cord might explain one or more, but by no means the majority, of the symptoms. The nature of the cerebellar affection cannot be at all doubtful. According to the whole course and the etiological conditions, it can only be a question of arrest of developement, of a faulty predisposition, whether of the whole cerebellum, or only of individual physiologically important parts of it. It is therefore easy to understand that several symptoms which are often present in cerebellar affections, and which are held in a certain sense to be of important diagnostic value, are wanting, such as choke optic disc, pain in the back of the head, vomiting, etc., because these are not properly atrophic symptoms, but the result of pressure or irritation of neighboring parts, and belong to degenerative and inflammatory processes, tumors, diffuse inflammations, scleroses, abscesses, etc.

There are some observations concerning atrophy of the cerebellum to be found in literature. The number is not large, and some of these are complicated by anomalies such as diseases of the pons, the cerebrum, and the cord, whereby disturbances not belonging to the atrophy of the cerebellum are present, or there are inflammatory changes present, in consequence of which, as before said, there are also irritation symptoms. It is therefore not strange that our case, in which there is no ground for the assumption of any kind of disturbance caused by such complications, does not exactly tally with some of the diseases of the cerebellum which have been described. There have recently been communicated two observations, one by P. Menzel, the other by M. Nonne, of a disease depending on inherited predisposition, and slowly developing itself, which, as both observers proved, presented in several respects a similarity, on the one hand, with Friedreich's disease, and, on the other, with the symptoms which are usually described as belonging to the disease of the cerebellum. Both proved to be cases of arrest of development, and degenerative atrophy of the cerebellum and cord, and in Nonne's case also of the cerebrum.

There was, on the contrary, in these cases absence of any kind of degeneration of the posterior and latter columns, the same as was found in Friedreich's disease. In spite of this—that is, in spite of the absence of those symptoms which are considered essential to the "combined system disease"—Nonne's case exhibited besides other symptoms, exactly the typical symptoms of Freidreich's disease, viz., the characteristic ataxia, disturbance of speech, nystagmus, and absence of disturbance of sensibility even more clearly stamped than was the case in Menzel's. And Nonne also explicitly emphasized the fact that the ataxia in his case did not exhibit the stamping spasmodic gait of spinal ataxia. A better proof that one of the most essential symptoms of Freidreich's disease, the characteristic static ataxia, is quite independent of the "combined system disease" could not well be given. It also follows that the anomaly which was exhibited by both of these cases in common, and which has also been found in other cases of Friedreich's disease, the abnormally small spinal cord, does not explain the ataxia which exhibits the cerebellar character. That the other symptoms, the nystagmus, disturbance of speech, etc., cannot be well explained by a cord affection, I have already mentioned.

There remains only the condition of the patella reflex, whose failure might perhaps be considered as depending on the condition of the spinal cord, not on simple atrophy—for this was present in both the above-mentioned cases, and still there was no failure of the patella reflex—but on a degeneration, due to atrophy, of certain tracts of the lumbar region of the cord, which has been found in some cases of Friedreich's disease and not in others. Whether or not the state of the patella reflex in Friedreich's disease depends on some such condition of the cord is a difficult question to decide, and one which I have no occasion to investigate here now; besides, failure of the patella reflex is to be observed in disease of the cerebellum alone.

I therefore conclude that Friedreich's disease, in its essential characteristics, depends on a congenital atrophy of the cerebellum, mostly of inherited predisposition, which may be accompanied by the same kind of atrophy of the spinal cord, and perhaps also of the medulla oblongata. Imperfectly developed organs of congenital origin, especially of the nervous system, as is well known, are very prone to diseases of any inflammatory or degenerative nature; and it is therefore very probable that, on account of the exceptionally long duration of Friedreich's disease, in the course of time such diseases, chiefly also of the spinal cord, will be associated, and that through these secondary occurring diseases another series of accidental and inconstant symptoms will arise, as has been observed in varying frequency. It is also clear that when, besides the cerebellum and cord, still other organs become associated, especially the cerebrum, whether primarily or in the subsequent course of the atrophy or disease, then, either primarily or secondarily, a complicated picture will be presented out of which the pure train of symptoms of Friedreich's disease must, as it were, be enucleated.

That in the later-occurring secondary diseases of the spinal cord a certain similarity or conformity to a general law is exhibited is easily explained.

The localization of the diseases of the cord under the influence of the anomaly of the cerebellum may, in part, be found in those systems of fibres which stand in close anatomical or functional relation to each other; and also, in part, in the fact that individual systems in the cord, more than others, partake of the defective development, and therefore are more inclined to secondary disease, degeneration, sclerosis, etc.

It is known that certain secondary degenerations follow affections of the cerebellum. And with respect to the spinal cord especially, I shall only refer to the latest experiments of Luciani (Marchi on animals); according to which, in consequence of disturbance of the cerebellum, the following parts degenerate: the lateral parts of the antero-lateral tract, fibres of the pyramidal tracts, and fibres in the anterior part of the direct cerebellar tracts. The disease of these latter tracts is looked upon by many as the most constant in Friedreich's disease.

In our case we must conclude from the uncomplicated train of symptoms that there are none of these complications present, except perhaps a slight change in the cord, to which we might attribute the failure of the patella reflex; but that later such diseases will occur and complicate the picture is very probable.

Selected Articles.

THE TREATMENT OF GASTRO-INTESTINAL CATARRH IN CHILDREN.*

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MANY authorities on children's diseases still retain the term "functional disturbances of digestion," including vomiting, simple diarrhœas, etc., and defining these as being without lesion. Others, again, as Louis Starr, regard all catarrhal states as practically involving a lesion, although a very transitory one, and generally non-demonstrable *post mortem*. In an extended experience in these disorders, it has seemed to me wiser to regard them all as dependent upon the lesion of an active catarrhal process, whether that be temporary or involves structural changes.

ACUTE GASTRIC CATARRH OR PERSISTENT VOMITING.

A very common disorder of infancy arising from irritative conditions of the stomach, or accompanying manifestations of acute disease, such as the exanthemata. The most common cause is unsuitable food, whether due to some disturbances of the mother's milk—in which case it is necessary to regard the mother as the avenue of treatment—or, in hand-fed children, to any of the numberless opportunities for causing damage which arise in the preparation of artificial food.

The *symptoms* are chiefly those of discomfort, listlessness, lack of appetite soon followed by vomiting of fermenting substances, curdled milk, or whatever the stomach may contain of food residue along with mucus. There is likely to be some fever, an acceleration of the pulse, tenderness over the epigastrium, and all these symptoms may last for thirty-six or forty-eight hours. In a vigorous child the whole episode often passes with a gush of loose fæces.

If it may be definitely ascertained that there is nothing behind all this, the simplest treatment only is necessary to bring about a cure with the utmost promptitude. The essential indication is to neutralize the hyperacidity of the stomach, due to organic acids, and possibly the employment of a mild laxative. The important elements of treatment consist in thoroughly investigating the condition of the food supply—for example, the health of the mother and the quality of her milk—and correcting whatever faulty conditions may prevail. Watch must be maintained if a specific trouble threatens. It is well to bear in mind that the specific fevers very rarely arise in a child under six months of age.

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*Read before the Atlantic County Medical Society at Atlantic City, May 3rd, 1893.

CHRONIC GASTRIC CATARRH, OR PERSISTENT OR RECURRING VOMITING.

Here there is a distinct hyperæmia of the gastric mucosa, which membrane gradually becomes thickened and loosened, changing in color and voiding sticky mucus, or at times even some little muco-pus. The gastric secretions are lessened, certainly in efficiency, and considerable depression of health obtains. The largest number of cases arise between four and seven months, coinciding with, if not dependent upon, the development of the first teeth.

The causes responsible are whatever influences lower vitality—poor hygiene, early weaning, or, above all, bad hand-feeding. As a matter of fact, the mother who is capable of nursing a child is a very rare animal, not only because of incapacity to secrete a wholesome quality of milk or maintain this for any length of time, but especially in that the modern mother, unless under most exceptional circumstances, is subject to numberless disturbing causes—physical and particularly emotional—and many the result of necessity, such as over-fatigue from laborious occupations. Any of these, or more likely all together, soon inhibits the average mother, in the upper classes even more than in the lower, from maintaining a suitable food supply for her offspring. I have several times seen children die in a very few hours from profound disturbance of a mother's emotions.

Next we have to deal with poor milk, even though it be good originally. Milk is subject to such an array of deteriorating influences that it is most difficult to place it before the little consumer in anything like a respectable condition. As to how milk should be cared for from the beginning, I will speak further on. The bottle-fed infant must, above all things, have the bottles kept absolutely clean. Nor is this so difficult a matter if certain very simple rules are clearly laid down by the physician. My directions to mothers at the Dispensary of the Children's Hospital and at the Polyclinic Hospital, where the service is a large one, are usually printed and handed to them, and are as follows: There should be in use at least three bottles and a half-dozen short rubber nipples; a common kitchen bowl filled with a solution of bicarbonate of soda in boiled water. One bottle should be in use; another standing near the fire filled with the soda solution; and a third bottle drying in a sunny place. The extra nipple should be floating about in the soda solution. These to be used in constant rotation, cleaned out each time, rinsed with the alkaline wash, and treated as described. The long flexible tube has happily been almost banished from every civilized community.

In children under eight months no farinaceous foods are suitable, not even the digested starches; only the animal foods are safe for such young infants—either milk in some form, or broths. It should be known to every mother that children are incapable of digesting starch foods until nearly a year old; but, alas, many medical men fail to bear this sufficiently in mind.

The dangers of the subacute catarrhal state of the stomach in infants are very great, not only from death from exhaustion, but from the profound depression of vitality, leaving them fertile ground in which the seeds of disease may flourish.

The treatment depends almost entirely upon the regeneration of the food conditions: A thorough investigation of the quality of the milk when it comes to the house; strict inquiry into the vessels which contain that milk after it has been received; complete isolation of this from any filthy odors or volatile principles which may contaminate this very sensitive fluid; and, finally, such treatment of the milk as the condition demands.

Treatment of the milk may oftentimes, with advantage, consist of sterilization. Sterilization has been drummed into the heads of the medical people, and into the minds of the laity likewise, as being the greatest panacea and cure-all for every childish ailment—a preventive of all threatened diseases, even of tuberculosis. These great hopes have been by no manner of means fulfilled. Sterilization, or the bringing of milk up to a heat just short of boiling, thereby destroying contained germs and otherwise producing conditions which make the milk more readily accepted by an irritable atomach, is a very valuable measure, with this inevitable proviso: *Whenever the occasion for its use has passed by, let there be as speedily as possible a return to good cow's milk unchanged.* Sterilized milk will not maintain a child for any considerable period in the same degree of vigor, nor with proper increment of growth, as will normal milk. Indeed, as Professor Albert Leeds has recently pointed out, the varieties and numbers of bacteria in milk are far less than the public have grown to believe. Tuberculosis sometimes does insidiously reach the unsuspecting victim through this avenue, but rarely, very rarely. Other microbic dangers do exist in milk, but not nearly to such an extent as we medical men have been teaching or have been taught. The method of *pasteurization*, or heating milk up to about 150° Fahrenheit, does nearly all that may be reasonably required, unless the milk supply is distinctly suspicious.

A good method of preparing the day's supply of milk is to take half a dozen stout pint bottles, thoroughly cleanse and fill them with the milk, and stopper them with absorbent cotton thrust into the nozzle. These are to be placed in a pan of water, and the water brought to a boil for about ten minutes. This drives objectionable gases from the milk, and kills all ordinary forms of bacteria. The cotton prevents the re-entrance, at least for a long time, of germs floating in the air. These bottles, put upon the ice, furnish very respectably prepared rations for a child.

This milk, diluted somewhat with boiling water for the very young, or not at all for those of nearly a year, guarded perhaps by a little alkali, as lime water, will do for a healthy infant. If the digestion be weak, or, as in the matter under consideration, markedly disturbed, other conditions may be maintained. Among the best of these, to my mind, is peptonization by the cold process as recommended by the Fairchild firm. Two grains of extract of pancreatine and five grains of bicarbonate of soda rubbed up with a tablespoonful of milk, then the proportionate amounts of milk and water added to fill a six-ounce nursing bottle, and all this plunged in hot water until the milk be somewhat warmed, then slowly and cautiously administered about every two hours, will usually suffice.

It is a rule abundantly confirmed that fresh cow's milk is much better than any artificial preparation; but it is also a matter of experience that it is frequently impossible to get good, fresh, sound cow's milk, and we are inevitably driven to the manufacturing chemists for an alternate.

Among these may be mentioned malted milk, which I have known to prove of very great service. A family of three children under my direction, in a place where good, fresh cow's milk could not be had, were brought up upon malted milk and water, and nothing else, from birth until a year of age, and they are very vigorous, well-developed children to-day.

Ordinary condensed milk contains a great excess of cane sugar, which readily undergoes acetic acid fermentation, and should be avoided when possible; but even for this a good word must be said, because it is a matter of experience that many times, when driven to the use of this imperfect substance, children not thriving on what should have been a better food do surprisingly well.

Again, while theories would seem to show it impossible, it is known that babies have been raised in fairly good shape upon so contemptible a fluid as veal or chicken broth, and survived to be a credit to their race.

Skin conditions. The bath is important, but in very young babies the medium need not always be water. For several years, while attending a considerable number of dispensary obstetric cases, I pursued the plan of having all children bathed in clean sweet oil and not water, and the results were eminently satisfactory. Bath-chill was thus averted, and the irritations caused by varying qualities of soap, etc., were spared the youngster, and I believe that when this line is pursued better results are had than by the use of soap and water.

My own children were treated thus until three months of age, and the nurse admitted that the trouble was less than with water, and stoutly averred that the children's skins were much better.

Clothing. The normal clothing, at least the underclothing, for an infant is wool, or possibly silk, summer and winter. No other fabric is safe. The vicious habit of exposing little babies' legs to the sudden changes of our American climate cannot be too sweepingly condemned. Undoubtedly many children survive such maltreatment, but it can with equal certainty be demonstrated that this baring of the knees and arms invites surface chill, which results in our American catarrhal stomach. Far worse, since maternal vanity is responsible for many tiny graves.

In this gastric catarrh there is usually a subnormal temperature in the late reaction from the feverishness which often arises, and in this condition of depressed vitality, where the heat-making power is less and where the accompanying leaky skin expedites the loss of body heat, chill of the internal organs is almost inevitable. Thus, little increments of hyperæmia are caused in the internal organs which may seem trivial, but almost certainly do damage to the alimentary tract.

GASTRO-INTESTINAL CATARRH.

This condition prevails largely among children who have passed the first dentition, and may be divided into the lesser *indigestion*—a disturbance which comes and goes—and the greater *mucous disease*.

A gastro-intestinal catarrh may arise in a robust child, and, with little or no treatment, speedily subside. In children who are less resilient, or more locally susceptible, this becomes a fixed condition, called originally by Eustace Smith, of London, by the excellent name *mucous disease*, and must receive special consideration.

To begin with *indigestion*, or gastro-intestinal catarrh. The causes are many: unfavorable surroundings, deficient light and air, too little of outdoor exercise and too much of school or indoor coddling, and along with the undoubted susceptibility which exists at the time of the eruption of the permanent teeth injudicious food and insufficient clothing—all conspire to bring about a very common and troublesome malady of childhood. This disorder prevails less in summer than in winter, because then the conditions of life of the average child are simpler and more wholesome. The outdoor exercise, so needful for the young, keeps the blood upon the surface of the body, and the circulation is more uniform. There are more reasons than can be enumerated here for the necessity of open-air exercise in maintaining the ebb and flow of the vital activities.

The chief cause, however, of gastro-intestinal catarrh is coarse, indigestible food. This acts as an irritant upon the mucous surfaces, which may already have suffered some depreciation, due to these remoter causes depressing vitality enumerated above. An excess of mucus, which in itself is an active ferment, is poured out; hence arise fermentative processes and the resultant organic acids. These, along with masses of coarse food, irritate the intestine, and a long train of disturbances result. An attack of vomiting and purging may arise which, for the time being, clears out both stomach and intestine. Unless the causes are removed and the food more carefully selected, it recurs again and again. The mass of mucus mechanically interferes with the absorption of the digested material, the blood is insufficiently replenished, and hence the organic activities are lowered and the gastric and intestinal juices deteriorate. Thus is there direct and indirect reaction.

Extension of the catarrhal processes from the air passages is frequently an avenue of mischief, and I have often seen children, and adults as well, in whom an acute attack of vomiting and purging would follow cold in the nose. Sufferers from this trouble became spare, flabby, and pale, with a leaky skin, rough and inelastic to touch; a weak pulse, with irritable heart; tongue marked by the teeth, literally "indented"; the tonsils are likely to become hypertrophied; the sluggishness in secretions causes vitiation, and hence arises the mawkish odor of the breath; the cervical glands are enlarged; the belly becomes prominent or depressed alternately; a certain amount of pain occurs along the track of the colon, especially when sharp turns are made, as in the right and left hypochondrium; rumbling of gas in the intestines; and a generally variable and capricious appetite.

MUCOUS DISEASE, OR CHRONIC GASTRO-INTESTINAL CATARRH.

A troublesome disturbance of digestion which arises after the first dentition. *Mucous disease* is, to my mind, an excellent name for a condition extremely prevalent among American children. Many times, not recognized, it is a fertile source of serious mischief.

The lesions are similar to those of *indigestion*, but much more severe and extensive. It is usually seen between three or four and twelve years of age—during the establishment and completion of the second dentition. Starr points out that it is especially the resultant of whooping-cough. While there is a considerable number of scoffers, and among them, too, some able men, who love to insist that "teething" produces nothing but teeth, undoubtedly there is a profound disturbance of nervous balance during this period, at least when the eruption of a tooth or teeth is imminent. The hyperæmia of dentition seems to be reflected throughout the length of the alimentary canal. Certainly *something* produces increased secretory activity and greater susceptibility to irritants.

The causes enumerated under *indigestion* also obtain here.

The symptoms are those of indigestion magnified and persistent. A steady emaciation prevails; the muscles fall into a condition of pitiable weakness; curious vaso-motor conditions occur; pallor, occasionally varied, especially in the afternoons and under conditions of excitement circumscribed by flushing of one or both cheeks, is noticed; along with this there may be pallor of the lips; this pallor may alternate with cyanosis, until the child looks as if it might faint at any moment; indeed, a very little excitement or fatigue will cause it to do so; the skin is usually sallow, leaky, and flabby to the touch; in places a mild pityriasis occurs, and little branny scales fall from the surface; the hair grows lustreless, and in vivid contrast to itself in health; the oral mucous membrane is seen to be pale; the tongue presents a peculiar and pathognomonic variation known as the "glazed tongue"; the organ is seen to be flabby, "indented" by the teeth, a furry coating over most of the surface, except the edges and tip, which are reddened, and in the middle an ovoid patch of glistening surface, which looks as if it had been shaved. Here and there about the surface fungiform papillæ, brightly reddened, show strongly through. At times, especially after a stormy period of vomiting and purging, a second appearance comes upon the tongue, which is known by the name of the "worm-eaten appearance." Here the organ is not so flabby, is more of its normal shape, the furring not so extensive, but more uniform and thicker, and the characteristic worm-eaten appearance is an irregular denudation here and there about the surface just like an old, worm-eaten bit of wood, the surface of which is bright red with sharp-cut edges where the coating outlines it.

Curious mental states often prevail during this disorder; exceeding capriciousness of temper, for which the child may be unwisely punished; morbid cravings; absurd fancies which take the color of the child's temperament, with such variations as its accidental training may cause. A characteristic point also is the tympanitic belly which is almost constant about an hour or two after food; and now and then in the early morning an umbilical colic. Constipation is the rule, and when this is overcome is very likely to alternate with painful tenesmus.

The nights are periods of horror with unrestful sleep, terrifying dreams, sometimes actual walking expeditions which, in fact, are rarely causeless. The urine may be passed unconsciously. Again, grinding of the teeth at night, and the picking of the nose by day, produce a picture which old women gravely insist is due to but one lubricoidal cause. As a matter of fact, worms are rare nowadays, at least in my experience, much more so than formerly. I can distinctly recall the time when it was a common thing to dislodge ascarides, but now it is less frequent, although suitable remedies may be applied as tests.

The temperature is rarely disturbed. It may, however, be a little high, especially after undue fatigue, and is, in a certain sense, an index or nerve tire. Another characteristic point is a prevalent irritative cough, quite independent of any pulmonary involvement.

Treatment. The treatment is much the same as that of indigestion, except that in indigestion the results are soon obtained, whereas in mucous disease it is imperative to regulate the entire environment and conduct of the child for a much longer period, even for months. The indications are to stop the fermentation of the food, and to give this in regulated amounts and at definite intervals. No starch foods should be taken, except carefully guarded bread. Fresh bread is indigestible because of the continued activity of the ferment. After some hours this ceases to be. Also the subjecting of bread to a second heating kills this ferment and makes it more wholesome. Therefore, a reheating does nearly as much as toasting, without the objectionable effect which toast has upon the bowels. The hours for feeding had best be systematized thus: Breakfast at seven, a light meal or "tiffin" at eleven, dinner at half-past two, and a light supper again at seven. The food should consist of milk either guarded with a little lime water, or peptonized by the cold process; broiled meats, beef and mutton, and rarely a little chicken; soups well freed from fat; oysters occasionally; purees of clams, oysters, or fish. The green vegetables well cooked—such as asparagus, spinach, stewed celery, cauliflower tops—with every other day a soft-boiled egg for breakfast, or an egg boiled very hard and the yolk spread on bread, are suitable. Butter is best omitted, but an excellent substitute is the yolk of a lightly boiled or poached egg spread on bread. It is well to make such variety as is possible by using different kinds of bread,—rusk, rasped rolls, etc. The meats should be well selected, tender, and the fat carefully removed. As the child improves, stewed dried fruit with very little sugar, or a baked apple, may vary the monotony; but the best dessert is the innocent preparation known as junket—milk curdled with rennet, calves' foot jelly, or possibly a plain rice pudding.

The clothing should be very carefully inspected—a flannel band about the abdomen to begin with, and *always* wool next to the skin. The outer clothes may be light, especially in warm weather; but the surface of the skin must be protected by a thorough non-conductor, always wool or possibly silk. The skin must be kept in good condition by bathing. In this it is well to use, rather than soap, salt, which is amply cleansing and more stimulating. A second treatment of the skin should be had after the midday exercise, in the shape of the rubbing down with a coarse towel, or, what is extremely good, a salt towel. This consists of an ordinary crash towel dipped in a strong salt solution and dried. Exercise is important to regulate carefully. Where the child is very weak this should be at first altogether passive, by means of massage, either professionally done, or at the hands of an ordinary nurse, who could easily be taught the simpler movements. Later, small increments of exercise may be prescribed, such as are had through the Swedish remedial movements, and, as strength increases, outdoor movement in the form of driving interspersed with short walks. After exercise of all kinds a brief period of absolute rest must be observed—a quarter or a half-hour at least. Exercise tends to keep the blood upon the surface, and to excite a more active ebb and flow. It also stimulates digestion and works many other advantages, provided always it be judiciously regulated and even supplemented by ample rest.

The medicines are of less importance. The first indication is to check the output of mucus; the next to neutralize the acids and prevent their formation. The alkalies are useful here, producing several effects, partly sedative and partly aiding to dissolve the mucous mass. Next comes the restoration of the irritable mucous membrane, and to bring back the normality of secretion. Here aids to digestion and digestive ferments can be combined. Finally, the bowels need careful regulation. In my dispensary work we use two or three simple prescriptions which seem to be entirely efficacious. The first of these is bicarbonate of soda and fusion of gentian. Curiously enough, children object very little to this nauseous dose, and administered before meals it is wonderfully effective. If great objection prevails, a drop of nux vomica to five drops of glycerine, along with the bicarbonate of soda, is better taken. Syrups are to be avoided, and yet the following mixture also has a valuable function: Bicarbonate of soda, nux vomica, and spiced syrup of rhubarb and water make an excellent combination, taken before the three principal meals. The clearing of the bowels, where this is needed, is best done with castor oil, although if the activity of the liver is manifestly impaired a little calomel may be used with advantage, or the tasteless phosphate of soda, or, again, chloride of ammonium persistently used. To restore intestinal tone, and keep the bowels regularly moving, either myrrh alone, or tincture of myrrh and aloes, serves a useful part. I usually tell my students that the most important agent in treating these disorders of the digestion is a pencil and a good-sized sheet of paper. For thus can one write out at length the conduct of the child for the entire twenty-four hours, specifying the hour for medicine, for food and for exercise, the time of bathing, the length of the exercise and the rest, making clear that these shall not be unduly near the feeding time, outlining exactly what foods may be taken and what avoided, and thus alone can the best results be had. I might speak of endless drugs which have, no doubt, their uses, but I think it would be of questionable value.

I close this summary with a few remarks on the preparation of foods for children.

First, of mother's milk. I wish I could believe that mother's milk was the best food for a baby. It ought to be, but it is not. By this I mean that it so rarely happens that a mother is both a good mother and a first-rate cow that one stands among the rarities. In the lower walks of life the mother has not only large drains upon her through unavoidable physical labor, but has responsibilities, in the bearing of which variations arise which reflect themselves upon her milk. If she content herself with simply being the mother and caring only for the baby, as in the case of a well-paid wet nurse, that would be quite a different matter. A wet nurse is able to be many times better than a mother. The mothers of the upper walks of life have also many drains upon them, chiefly emotional, and they, too, fail many times, but not necessarily oftener than the poorer ones, although the contrary notion prevails. The wet nurse, theoretically the best supply of food for a baby, is seldom much better than is careful hand-feeding. So, when all is said and done, thoroughly careful hand-feeding is about the safest and most reliable.

When the milk of an animal is the aliment, much care is needed from the time it is removed from the cow until it is used by the child. Two or three practical points may not be amiss. Milk from a healthy cow may be used instantly it is drawn, or else not until it has been subjected to a primary chill. It contains certain volatile principles which, if not removed, are partly poisonous. After being drawn, milk should instantly be placed in a temperature of 60 or 65 degrees, in a clean atmosphere, free from all objectionable odors, and there allowed to remain until quite cool. Thus are the gaseous principles expelled from it, and in other ways it is rendered more wholesome. When received by the consumer, it should be put carefully in an hermetically sealed vessel and in a cool place, not necessarily the refrigerator, which usually contains butcher's meat or other materials which may give forth offensive smells, but kept apart by itself, if merely placed in the shade where a good draft blows, and it is cool as in an ordinary cellar. In very hot weather it is well at times to employ sterilization, but this should never be continued any length of time, because sterilized milk does not maintain the health, nor is it competent to form the best of muscle and other structures. Under conditions of stress, pasteurization is usually sufficient.

Variety. No matter how judiciously a child with weak digestion be fed, and how admirably the regimen outlined seems adapted to his needs, there comes a time when he needs change and variety. As the changes in the digestive capacity grow rapidly in the earliest years, care must be exercised to liberalize the dietary consistent with the constitutional demands. A typical illustration of this came under my notice at Bar Harbor last summer. The child, aged three years, of a gentleman who was himself a patient of mine had been ill and was carefully directed by a physician of the highest ability to live on a prescribed diet, and throve abundantly. This was continued for many months with unvarying regularity. After a time, for no discernible cause, the boy failed, grew irritable, seemed weak, easily tired; began to void uric acid, the skin grew flabby and leaky. The change of air had done nothing for him, and the parents were in despair. A careful search into the matter revealed the wretched lameness of a diet suitable to a child of a year younger, and consisted of milk, soups and egg on alternate days, and zweibach, varied only with junket and rice pudding. In the face of the morbid fears I enlarged this by the addition of a few green vegetables, roast and broiled meat once daily, a little fish, and some stewed fruit, and promptly the whole picture changed.—*Medical and Surgical Reporter.*

Clinical Notes.

A CASE OF MELANOTIC SARCOMA.

By D. Gilbert Gordon, M.D.,
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A CASE of melanotic sarcoma which ran its course in two months, and in which there was never at any time any external manifestation. The disease was clearly shown by the *post mortem* to be primarily in the liver.

Case. R.W., æt. 78; married. Had a large family, all grown up, and particularly healthy. A brother and sister are said to have died of cancer; otherwise the family history was good. The deceased called at my office on March the 29th of this year. He complained then of a pain in the right side (more or less general); also a pain in right shoulder. He had been complaining of feeling indisposed for some time. He did not enjoy his food, and, though he attended to business all the time, he was not up to much. He stated that, six weeks previously, he felt a sudden pain in his back (a twist), and since then he had never felt well, and had not enjoyed his food. For the last few nights he had been sleepless. Simple treatment completely removed the pain in the shoulder. A mustard poultice applied to the side gave considerable relief.

April 5th. The pain in the side was more localized over the region of the liver, and was more severe on breathing and on moving. He suffered considerably from anorexia, constipation, and insomnia. Fellows' syrup was ordered, but could not be taken. A vegetable tonic given later suited well. Rhubarb and soda relieved constipation. It was necessary to give ¼ grain of morphia at night, which always gave rest and sleep. The temperature had been for some days about 99° in the morning and 100° in the evening. Pulse, 68 and 74.

April 9th. Temperature and pulse were still up, but he said he was feeling better. A distinct bulging was felt over region of liver. He could always map out the sore spot; a circle about 1½ inches in diameter, over the region of the gall bladder, he would from day to day name as the sore place.

April 11th. Had been kept in bed for last two days and put on light diet. The urine was smoky in appearance. Examination of it gave an acid reaction; no albumen; no bile; no blood; urates in considerable quantity. It gave us pretty clearly Erlich's test for typhoid.

April 18th. For six days previous to this date he was seen morning and evening. During this time the evening exacerbations and morning remissions were marked. Temperature, 99° to 100° in the morning, and 100° to 101° in the evening. The pain in the side was more troublesome. He had coughed up, two or three times, some bloody sputa, which looked as if it were made up partly of broken-down tissue. The pain extended to abdomen, and flatulence was troublesome. Râles were heard over right lung, especially at back. Yawning was troublesome at this stage. The friends were told that the disease was probably malignant.

April 19th. He was seen on this day by Dr. W. P. Caven. Dullness was marked over right lung, and crepitations were heard over a large area. Dr. Caven thought the disease was of a sarcomatous nature.

The urine and sputa were examined by Dr. J. Caven, and melanin was found in both. The diagnosis of melanotic sarcoma was now certain.

April 20th. The pain was severe on that day. He complained of feeling very tired, and could take no food. In the evening the temperature was 101°, and the pulse 106, and was tense.

April 21st. He got suddenly worse at 10 o'clock a.m. He was seen at 12 o'clock, and was evidently dying. Peritonitis with tympanites was marked. There was great dyspnœa. Death at midnight.

Post mortem. Dr. John Caven performed a *post mortem*, and on opening the abdomen found the subperitoneal fat filled with melanotic deposit.

Lungs filled with same, right lung more so, the posterior part of which was black in appearance, probably partly due to stasis. Spleen and kidneys slightly enlarged (if any), and filled with deposit.

On breaking sternum the marrow was found to be fluid and black in color, evidently due to deposit.

The liver was much enlarged and filled with deposit. Had on section a marbled appearance.

In looking over this case the important facts seem to be:

(1) The patient was perfectly well two months before death.

(2) There never was any sign of tumor or pigment on skin or eye.

(3) Metastasis was of unusual rapidity.

(4) The liver was the part primarily involved.

(5) Death was evidently due to peritonitis, probably from effusion.

The symptoms by which the diagnosis was made were:

(1) The gradual loss of strength, with general depression and steady failure from first.

(2) Loss of appetite and loss of flesh.

(3) The pain over the liver, with the increased size of the organ.

(4) The absence of jaundice.

(5) The rapidity with which the disease advanced.

(6) The melanin in urine and sputa.

TURPENTINE POISONING, WITH AN UNUSUAL SKIN LESION.

By George H. Carveth, B.A., M.D.,

Physician to Toronto Dispensary and Home for Incurables.

Miss A.B., a young woman of nervous temperament, as a result of overstudy and overwork, had become somewhat run down in health, shown by attacks of atonic dyspepsia, constipation, etc. In the early part of January, 1893, she determined to take a dose of castor oil to relieve constipation. In mistake about one-half an ounce of old spirits of turpentine was given to her, mixed with an ounce of whisky. The mistake was noticed only after the turpentine had been swallowed, but nothing was then done, except to take a dose of castor oil. The turpentine was given at 11 o'clock in the evening. A short time after the patient fell asleep and awoke at 4 a.m., complaining of sickness of the stomach. She vomited soon afterwards, and was then restless till about 8 a.m., when a convulsion came on, followed by a state of unconsciousness. I saw her a few minutes after the onset of the convulsion, and found the following conditions present:

Pulse weak, feeble and rapid, face and lips pale, patient restless, delirious at times, talking incoherently, but could be partly roused.

Urine had been passed in quite a quantity since last evening, no irritation of the urinary organs at any time.

Whisky, sweet spirits of nitre, milk, and sweet oil were given, and warmth applied to the body. Vomiting was induced by irritating the fauces. The vomited matters had a strong odor of turpentine ten hours after the turpentine had been taken. The bowels were moved by magnesium sulphate and injections.

After vomiting severely a number of times she regained consciousness and immediately complained of a burning pain in the right leg, saying that erysipelas was coming on, as she could feel the leg hot and painful. On examination the back part of the leg and thigh was found to be red, swollen, and covered for a space of 5 inches by 13 by a bulla or blister, exactly resembling a burn. On pricking the blister, the contents were found to be watery, with a strong odor of turpentine, and in quantity about ten ounces.

The position of this blister was behind the knee, and reaching from one inch above the fold of the ham to 11 or 12 inches down upon the calf of the leg, and in width from 3 to 5½ inches.

At 11 o'clock in the morning the temperature of the patient was 100° F., and pulse 100. By the evening of this day temperature and pulse were normal. Next day, the skin beneath this blister looked dark in color, and on the third day it became quite black, and it was evident that death of the skin had taken place. About the sixth day the line of demarcation appeared between the dead skin and the surrounding healthy parts, but the sloughs were not completely separated till the twenty-first day, leaving a cavity 4 inches by 12, and in depth down to the muscle; the skin and subcutaneous tissue dying and coming away. On the twenty-seventh day the cavity was filled to the level of the surrounding skin, and skin-grafting was done by means of small-sized pieces of skin laid on the now healthy-looking granulations. The grafts took well and the ulcer was healing rapidly, when the time for the ordinary monthly sickness approached. At once the ulcer began to look unhealthy, and a few granulations in the centre of the sore died. On the thirty-sixth day, this small dark spot appeared, and on the forty-third day *all* the granulations had died and come away, carrying all the new skin grafts except two which had been near enough to the edge to receive nourishment from this source.

On the forty-seventh day new granulations began to form over all the floor of the ulcer, and the edges were growing in rapidly. On the forty-eighth day the accompanying photograph was taken. On the fiftieth day the ulcer was healing in all parts, and looking well, new skin grafts taking rapidly. About this time the general health began to improve, the patient being able to be driven out, with the limb elevated.

On the seventieth day the ulcer measured 1 by 3 inches, and was looking well. As the time for the next monthly sickness came near, healing stopped, and the ulcer remained stationary for a week, but no granulations of any account died, and after this time the healing was rapid.

At the time of the next monthly sickness healing had almost taken place, a spot ¼ inch diameter only being left, and no special effect was seen in the sore except that the scar looked dark and congested for two or three days.

On the one hundred and sixth day, the ulcer was all healed, and the patient able to go about.

ENLARGED GALL BLADDER FROM OBSTRUCTION—EMPYEMA--PRURITUS ANI.

By J. E. Pickard, M.D.,
Virginia City, Nevada.

ENLARGED GALL BLADDER FROM OBSTRUCTION—CHOLECYSTOTOMY.

MRS. M., æt. 37. Had always been healthy till about four years ago, when she began to suffer occasionally from biliary colic. Passed a large number of small stones at different times. On one occasion during an attack passed one about the size of a quail's egg.

On Jan. 26th I was sent for, and found her suffering considerable pain. Pulse rapid, and slight elevation of temperature. Gave hypodermic injections of morphia and atropia, and used hot applications externally, and gave chloroform and sodium phosphate internally. In a short time passed some small stones, and was relieved. Some subsequent jaundice, which passed away in about a week.

About Feb. 10th began to have constant pain in region of gall bladder. Stomach very irritable and frequent vomiting; slight elevation of temperature and general prostration. Had kept up chloroform and sodium phosphate ever since previous attack; this was continued, with occasional doses of antikamia and morphia, as pain demanded. Hot external applications when pain was most severe. In a few days noticed enlargement of gall bladder. As no jaundice supervened, concluded there was obstruction of cystic duct. Gave such remedies as are supposed to have a solvent effect on gallstones, in spite of which the tumor increased until, by Feb. 25th, it seemed the size of a cricket ball. Constant pain. Patient becoming constantly weaker. Could take but little nourishment, and pulse weak and rapid. Slight elevation of temperature showed inflammatory process going on. Fearing rupture of gall bladder and escape of contents into peritoneal cavity, I urged cholecystotomy as the only hope of saving patient. Dr. McDonald in consultation, we decided to operate the next forenoon. After the visit on the 25th, patient complained of more pain and great prostration, and on my visiting her again she declared that she had felt something give way, which I did not believe, as tumor still retained its firmness and contour. Gave hypodermic of morphia and stimulants.

At the appointed time on the 26th, with the assistance of Drs. McDonald and H. D. Boyes, proceeded to operate. Made incision about four inches long over central part of tumor and parallel with costal cartilages. On going through peritoneum, offensive bile mixed with pus welled from the opening. The gall bladder had burst, but there proved, fortunately, to be sufficient inflammatory adhesions to make a wall, so preventing escape into peritoneal cavity. Washed out pus cavity with listerine, hydrogen peroxide, and water. Passed fingers into cystic duct and removed the plug, which proved to be a stiff doughy mass of partially dissolved gallstones. Put in large rubber drainage tube, and dressed wound antiseptically, having stitched wound.

From this time out patient made an uninterrupted recovery. No elevation of temperature, pulse steadied down at once, stomach behaved well, and appetite and strength returned rapidly. Washed out cavity with the above solution, and about twenty days after, as all discharge had ceased, removed tube and allowed wound to heal.

May 1st. Patient happened into my office, having walked half a mile up grade. I examined and found her in excellent health.

The question arises in my mind: which is the safer course to pursue—to perform regular cholecystotomy as soon as it is evident that cystic obstruction exists, thus running the risk connected with laparotomy, which is slight in these days of antiseptic precautions; or to wait and risk the chances of rupture and danger of peritonitis, hoping for the obstruction to become dissolved, or the hopes of adhesions before operating? I strongly favor the former course—opening the gall bladder, removing obstruction, stitching cut made in bladder, and closing external wound—because modern methods of surgery have made laparotomy a comparatively safe operation.

EMPYEMA : PLEUROTOMY.

Miss Q., æt. 26. *Family history:* Mother died from tuberculosis, and father from miner's consumption. Brothers and sisters healthy.

Previous history. Has always enjoyed fair health, but never rugged. Always more or less anæmic. Usual weight, about 130 lbs.

Present condition. November 7th, 1892, walked from another part of the town to my office to consult me for "breathlessness" upon the least exertion, explaining that about three weeks ago she was troubled with a slight pain in the left side and had slight chills and fever. Applied mustard plaster and kept her quiet two or three days. Pain left, and, though feeling much better, the appetite did not return, and she felt weak. About a week after getting around, noticed that she easily got out of breath, a condition that gradually increased, so that now, after climbing the stairs to my office, shows marked dyspnœa. Find marked dullness of left side, reaching to axilla. The usual examination showed pleuritic effusion, which aspiration proved to be purulent. Temperature, 100°; pulse, 130; respirations, between 60 and 70. Put her to bed and gave her the usual treatment.

November 9th. Condition unchanged, except increase of effusion. Aspirated, drawing off fourteen ounces of pus. Routine sustaining treatment continued. From this date until December 13th condition remained the same. The cavity refilled and was aspirated two or three times, with same results as before. Patient continued to lose in strength and flesh, so determined on more radical treatment; though, believing the case to be tubercular, did not feel at all hopeful of the final results.

To-day, assisted by Dr. McDonald, performed pleurotomy without resection. Local anæsthesia by hypodermic injection of cocaine. Made incision three inches long between eighth and ninth ribs in posterior axillary line. There was a discharge of about a pint of thick, foul-smelling pus. Washed out cavity with listerine, hydrogen peroxide, and water, and placed in two large rubber drainage tubes, and dressed wound with corrosive sublimate, absorbent cotton, and iodoform gauze.

The after-treatment consisted in daily washing out cavity with antiseptic solutions. After a few days, found a loose slough in cavity which proved to be a large slough of lung substance, a handful of which was removed. There is nothing of note to record in the subsequent progress of the case, patient making an uninterrupted recovery, rapidly gaining flesh and strength. There never was any elevation of temperature after the operation. On the twenty-fourth day, removed drainage tubes and allowed wound to close. Examined patient recently, and found her in perfect health.

From my experience in such cases, I am firmly convinced that the only proper procedure is pleurotomy, either with or without resection of ribs, as soon as pus is discovered ; that while many cures are reported from simple repeated aspirations, etc., there may be lost much valuable time by such expectant methods, and that pleurotomy, with our present knowledge of antiseptics, is safe, radical, and more promising of good results.

Recently I have had several cases of pleurisy with serous effusion, and I can testify to the value of salol and sodii salicylas in hastening absorption.

PRURITUS ANI.

In a recent number of THE PRACTITIONER, I noticed some suggestions as to the treatment of pruritus ani, the writer at the same time speaking of the disappointments so often met with in the treatment of such cases. Some years ago I happened to have a number of such cases. There seemed no complications in the way of hemorrhoids or seat worms. Yet the treatment of these annoying cases was very discouraging, both to me and my patients, though I had tried almost everything that the literature of the subject could suggest. Happening to speak to Dr. Duncan of my ill-success, he told me that he had never had a failure in curing them in a very short time (that is, uncomplicated pruritus ani) by the application twice daily of an ointment of calomel, forty grains to the ounce of simple ointment. Since then, during the past five years, I have applied the treatment in a number of cases, and have never been disappointed once in the results. About a month ago, a cigar dealer here applied to me for relief of such a trouble. After a very few applications, he told me he was entirely relieved. For years the itching had been intense on going to bed, and his rest badly broken. Have repeatedly had such results, and strongly recommend a trial of the treatment.

A CASE OF PERFORATION OF INTESTINE.

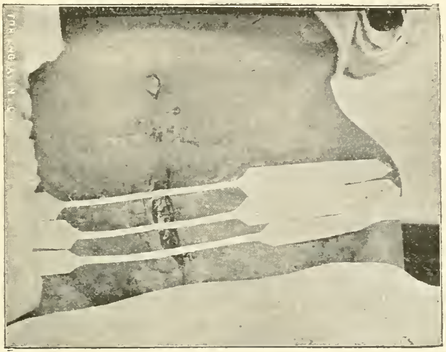
Under the care of James F. W. Ross, M.D., in the Toronto General Hospital.

REPORTED BY A. S. TILLEY, M.D., C.M.,
House Surgeon, Toronto General Hospital.

JAMES B., æt. 32 ; carpenter ; married. Was admitted to General Hospital, April 30th, at 3 p.m., suffering from general peritonitis, and other symptoms indicating perforation of the bowel.

Two years ago last December he was operated on for strangulated hernia. The bowel was found to be gangrenous, and as a result he had a fæcal fistula. Last December it closed, but occasionally flatus escaped through the wound. After the closure of the fistula, he suffered from great distention in the right iliac region near the wound. This happened daily for a time, but gradually it occurred less frequently until it appeared only twice a month.

He retired Saturday night, the 29th of April, feeling as well as usual, but was awakened by severe pain over all the abdomen, and sent for the family physician, who diagnosed perforation of the bowel and sent him to the hospital for treatment. He was placed under the care of Dr. Ross, who decided to make an abdominal section at once.



Photograph of Abdomen.
(Showing healing of abdominal incision with intestine lying in bottom of wound.)

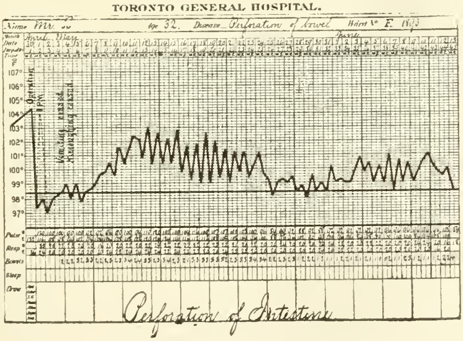


Chart of Case Complete to June 13th.

When the patient was placed on the operating table his temperature was $104\frac{2}{5}^{\circ}$; the heart sounds could not be heard, even with the aid of a stethoscope; his respirations were over 40 per minute, and he was unconscious. The anæsthetic used was ether.

On section, fæcal matter was found in the peritoneal cavity, together with pieces of undigested apple and green onions, leading to the belief that the perforation was high up, and not at the seat of the fistula. The peritoneal cavity was thoroughly flushed out with warm water. More than two-thirds of the intestines were passed through the incision and examined, but the perforation could not be found. The patient was so low at this time that Dr. Ross rapidly stitched up the incision and dressed the wound as he would if he expected the patient to live.

After he was put to bed his temperature was $100\frac{2}{5}$°, pulse 136, and respiration 36. For four days he could not retain anything in his stomach. During this time he was given strychnia and brandy hypodermically, and enemata of brandy and peptonized milk. The latter were continued until the 9th of May. On the 5th he took two drachm doses of equal parts of milk and lime-water every hour. This was gradually increased until he took three or four ounces every hour. He also had, at this time, two drachms of whiskey every hour. At the present he is taking two drachms every two hours.

Hiccoughing and vomiting came on immediately after the operation. The vomited matter was very dark at first. The hiccoughing was controlled by chloranodyne, which also kept him quiet, lessened his pain, and gave him sleep. Vomiting ceased on the first day, and hiccoughing on the sixth day after the operation.

On the 12th of May diarrhœa set in. This was controlled by pil plumbi cum opio. He had from four to eight movements in twenty-four hours. For the last two weeks his temperature has risen proportionately to the degree of constipation. The accompanying chart will give the temperature in a plainer language than can be penned.

For a few days the dressings had little or no discharge on them, when it became more profuse and had a fæcal odor. This lasted for about a week. On the 20th of May an apple seed was discharged through the wound. At the present time there is no discharge. The accompanying cut shows the edges of the wound, to which the underlying intestine has become attached. The wound was intentionally allowed to gape while being photographed, so as to show this. The motion of the bowel can at any time be clearly seen. The wound is granulating together quite satisfactorily.

He was on an absolutely milk diet until about the eighteenth day after the operation, when he was given custard, and this was gradually added to, so that at the present time his bill of fare is milk and lime-water, lemon egg-nogg, chicken broth, strained gruel, beef tea, mutton broth, and custard and jelly. He has a splendid appetite, asks for solid food, and is much annoyed when he sees trays of more substantial food going to the other patients. He also sleeps well, and the prospect of his recovery is good.

Progress of Medicine.

MEDICINE

IN CHARGE OF

W. P. CAVEN, M.B. Tor.,

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CEREBRO-SPINAL MENINGITIS AND PERICARDITIS AS SEQUELÆ OF PNEUMONIA.

Venturi describes a case (*Lo Sperimantale*, April 30th) in which a patient became first affected by pneumonia, which ended by crisis on the ninth day; convalescence proceeded satisfactorily for the next seven days, but was then suddenly cut short by rigors and a fresh rise of temperature, which ushered in an infective pericarditis and meningitis, to which the patient finally succumbed. A bacteriological examination of the exudation showed that death in this case was due to the action of the pneumococcus described by Fraenkel, this microbe being revealed both by direct cultures and also in the blood of rabbits which died in consequence of inoculation with the exudations. The points in the case to which special attention is drawn are: (1) The fact that there was a period of complete freedom from symptoms while the patient, in all probability, still harbored the microbe; (2) that with human beings it is not true that any general immunity is conferred by a single infection, although this has been shown to be the case with rabbits by the researches of Klemperer. It seems, on the contrary, that a sojourn in the body may actually increase the virulence of the infecting microbe.—*Epitome.*

OIL ENEMATA IN CHRONIC CONSTIPATION.

Dr. Fleiner distinguishes two varieties of chronic constipation, viz., the atonic and the spasmodic. These two forms of chronic constipation are sometimes found combined. The lower half of the large intestine is then in a state of spasmodic contraction, while the upper half is atonic and distended with gases and fæces. The distinction between atonic and spasmodic constipation is of the highest importance as regards treatment. Electricity, massage, and laxatives, which are so efficacious against the former, not only fail in the latter, but are actually harmful, for the spasm of the intestinal wall is increased by the irritation produced. Better results are obtained in some cases by the administration of narcotics, particularly belladonna and hyoscyamus, and of warm injections of infusions of chamomile, peppermint, anise, etc., but these means also very often prove inefficient. Olive oil injections, however, constitute a ready and safe way of relieving even the most obstinate cases of spasmodic constipation. The oil exerts a stimulating and soothing action on the intestine. It can also be used in cases of atonic constipation ; but as this is removed by other means of a still simpler kind, the injections are especially indicated in cases of mixed and spasmodic constipation. For purposes of administration Professor Fleiner employs a cannula with a bulbous end, similar in appearance to an ordinary vaginal tube, but large enough to allow of the easy discharge of the oil. The cannula is connected by means of a flexible tube with a syringe containing about fifteen ounces of pure oil. The patient is made to lie on his back with the pelvis elevated, the cannula is introduced, and the oil injected slowly. The operation usually takes from fifteen to twenty minutes. The cannula need not be passed very high up the rectum, for, by placing the patient in the position above described, intestinal pressure is lowered and the oil is, as it were, aspirated by the intestine. For some time after the injection the oil gives rise to no sensation whatever, but after a while the patient feels a desire to pass wind. There is no pain if pure oil is used. At the end of a few hours, in the morning if the enema was administered at night, a more or less abundant evacuation is produced, which contains only half the quantity of oil injected. The injection is repeated daily until the intestine is cleared of its contents. Two or three enemas are usually sufficient for that purpose. When this has been done, the effect is kept by means of an injection of about ten ounces of oil at intervals of a few days. When the intestine is distended with fæces, the first injection may not succeed in moving the bowel. In such cases an enema of water is given a few hours after the oil injection. Nothing but pure oil of good quality should be used ; that is to say, oil free from all rancid and acid principles, which are apt to give rise to colic. Needless to say that the apparatus should be kept scrupulously clean. After each operation the tube and cannula are cleaned by washing first in alcohol and then in water. Apart from chronic constipation, which is so frequently met with in neurotic subjects, in anæmia, and various gynecological affections, oil enemata are also very useful, according to Professor Fleiner, in the treatment of membranous colitis, in typhlitis, rectal inflammation, and the intestinal disturbances connected with diseases of the stomach.—*Medical Week.*

Motor Disturbances in Neurasthenia.

Pitres, of Bordeaux, recently read a paper on this subject before a learned society at Marseilles. Tremor is the most marked motor disturbance of neurasthenia, especially in the upper extremities; hardly noticeable when the arms are hanging down, tremor is at once apparent when they are raised in the attitude of taking an oath. This tremor is like the so-called alcoholic tremor; or, better still, like that described by Marie as characteristic of exophthalmic goitre, and is most pronounced in acute neurasthenia. Emotion, fatigue, and all kinds of excesses exaggerate it. Tremor is present in more than half of all neurasthenic cases. The other motor disturbances are simply accidental episodes, and are in nowise characteristic of neurasthenia, as muscular twitching simulating paramyoclonus multiplex, cramps, rhythmic spasm of the neck, tongue, or œsophagus, and intermittent lameness. Astasia-abasia, often considered a symptom of hysteria alone, Pitres finds of comparative frequence in neurasthenia. Romberg's sign is not unusual, and aids in the erroneous diagnosis of pseudo-tabes. Absence of knee-jerk may also mislead. Loss of pupillary reaction to accommodation and the presence of the reflex to light—the reverse of the Argyll-Robertson pupil—is one of the most singular neurasthenia anomalies. Symptoms of grave organic disease are also symptoms of neurasthenia, and careful examination and judgment are necessary to avoid errors in diagnosis, prognosis, and treatment. Neurasthenia lasts longer than hysteria, and the symptoms disappear more slowly. Neurasthenics are but slightly, if at all, susceptible to hypnotic influence. Hence the futility of hypnotism in this special disorder.—*Medical Record.*

TOLYSAL AND TOLYPYRIN.

Tolysal and tolypyrin are two new remedies which belong to the antipyrin class. Tolysal is recommended by Hennig in doses of one or two grammes as an antipyretic, antirheumatic, and analgesic. Tolypyrin is recommended by Dr. P. Guttmann as a substitute for antipyrin, which drug it resembles in action and dose.—*Medical Record.*

HEART POLYPUS.

At the meeting of the London Pathological Society, February 7, Dr. Voelcker (*British Medical Journal*) exhibited a specimen of this nature. It occurred in a woman, aged 54, who died four days after admission with general œdema, cyanosis, and bronchitis. A systolic murmur was heard at the apex. After death no vegetations or infarcts were found. The right side of the heart was enlarged, the left ventricle hypertrophied and dilated, and the mitral valve thickened. In the right auricle was a large gelatinous-looking clot attached to the auricular septum, of the form and size of a champagne cork; it exactly fitted the mitral orifice. The clot was neither softened centrally nor calcified; in the deeper part were many new-formed capillaries and all the evidences of "organization." Dr. Delépine had given references to two cases in which such clots were in process of vascularization. The author thought that the clot probably arose on a vegetation at the lower border of the foramen ovale. Osler had recorded two cases in which a mass of recent vegetation was found around the edge of the foramen ovale.

Dr. Morison referred to a similar case that had been observed by Professor Gairdner, of Glasgow.—*Maryland Medical Journal.*

THERAPEUTICS

IN CHARGE OF

O. R. AVISON, M.D. Tor.,

Demonstrator of Materia Medica and Elementary Therapeutics in the
University of Toronto.

AND

GRAHAM CHAMBERS, B.A., M.B., Tor.,

Professor of Analytical Chemistry and Toxicology, Ontario College of Pharmacy; Lecturer
in Organic Chemistry and Toxicology, Woman's Medical College.

OINTMENT FOR URTICARIA IN CHILDREN.

℞.—Chloral . . . . gr.x.
Powdered camphor
Powdered gum-arabic, of each . . . . ℥i.
Simple cerate . . . . ℥i.

Triturate together the first three substances until liquefaction takes place, and add the cerate. At night the ointment is to be applied to the area which is involved. It will diminish the itching and produce quiet sleep.—*Therapeutic Gazette.*

ANTISEPTIC SUPPOSITORIES.

R.—Pulv. iodoform . . . . ʒii.
Pulv. ac. boracici . . . . ʒii.
Ol. theobrom . . . . q.s.
Div. in suppositories. . . . . No. xii.
M. et t.

These suppositories form a convenient substitute for the iodoform emulsion in the treatment of tubercular joints and tubercular abscesses generally. One suppository introduced into the vagina daily for one week after operation upon that organ or the cervix uteri, or after accouchement or abortion, preserves the aseptic condition of the tract, and removes absolutely the necessity for using the vaginal douche.

IVY POISONING.

℞.—Ac. carbolici	ʒi.
Ext. grindelia Rob. fl.	ʒii.
Aquæ ad	℥viii.
	Ft. Lot.

Sig.—Apply constantly upon lint.

EFFECTS OF MORPHINE ON THE FEMALE ORGANS.

Passower (*Centralbl. f. Gynak.*, Mo. 2, 1893) recently read a paper before the Obstetric Society of St. Petersburg, in which he related the course of two cases under his own observation. It confirmed an opinion, already supported by the observation of others, that the abuse of morphine eventually leads to atrophy of the female organs. Passower's cases were of the ages of twenty-nine and thirty. One consulted him on account of the resultant amenorrhœa. The drug was discontinued, and the catamenia reappeared. The patient took to morphine again, and straightway the menses ceased. Between 1887 and 1889 Passower observed the case; sixteen pounds weight was lost, and the subcutaneous fat disappeared. The vulva atrophied. The measurements of the uterus during that period ran as follows: December, 1887, $3\frac{1}{10}$ inches; May, 1888, $2\frac{9}{10}$ inches; November, 1888, $2\frac{7}{10}$ inches; April, 1889, $2\frac{6}{10}$ inches; September, 1889, $2\frac{3}{10}$ inches; and July, 1890, $1\frac{9}{10}$ inches. The atrophic process no doubt began in the ovaries and spread to the other parts of the genital tract. This is evident from the early appearance of amenorrhœa and the later atrophy of the vulva, and also from physiological evidence; thus the submaxillary glands atrophy in dogs subjected to doses of morphine. How much of the drug can be taken without danger of these ill effects is entirely an individual question.—*British Medical Journal.*

TO DEODORIZE IODOFORM, CREASOTE, AND GUAIACOL.

The odor of iodoform, creasote, or guaiacol upon the hands can be overcome by washing with linseed meal. Articles having an odor of iodoform may be washed in tar-water, to which oil of wintergreen has been added. The taste of pills of creasote can be disguised by means of a little powdered coffee. The odor of iodoform or guaiacol in rooms can be dissipated by burning coffee.—*Deutsche Medizinal Zeitung (Medical News).*

TREATMENT OF BOILS BY BORIC ACID.

L' Union Médicale quotes Alison as having obtained good results in the case of general furunculosis by the administration for eight or ten days of from ten to fifteen grains of boric acid a day, divided into two doses. At the same time, four or five times a day, the inflamed areas were washed with a hot solution of boric acid. In this way he claimed to have been able to relieve the boils which had already formed, and to do much towards preventing other outbreaks. By this means he thinks it possible to avoid surgical intervention.—*Therapeutic Gazette.*

TREATMENT OF SYPHILITIC PALMAR PATCHES.

Dr. V. de Holstein (*La Semaine Médicale*, No. 10, 1893) had a young man under treatment who suffered from a very extensive psoriatic syphilitic eruption upon the palms of his hands. He prescribed the following salve:

℞.—Calomel, ... gms. 5
(ʒj ¼)
Lanoline, } aa .... gms. 15
Lard, }
(ʒiv).

Every evening, on retiring, he was instructed to rub for a few minutes the palms of his hands with a little of this salve, wear a pair of gloves during the night, and then remove the application in the morning with soap and water. The next morning there was a surprising improvement: at the end of four or five days they were imperceptible on superficial examination, and soon they entirely disappeared. Since then he has often used it with invariable success in several cases of syphilitic palmar patches. —*The Cincinnati Lancet-Clinic.*

TRIONAL.

Trional, under quite recent clinical tests, is found to have a special value in uncomplicated agrypnia, or wakefulness with a certain amount of excitement. In these cases it is said to have acted promptly and effectively in doses of 1 to 2 grammes. Trional is useful also in convalescence from the abuse of cocaine and morphine. Some of the reports state that doses of 2 grammes would usually procure for these patients a sleep of seven to nine hours' duration. According to a recent report of Boettiger, dementia with hallucinations was very favorably influenced by trional. The same writer reports thirty-three cases of insomnia, with physical disturbances, in the insane. These were primary or secondary, or were accompanied by moderate delirium or motor restlessness. Doses of 1 to 2 grammes of trional promptly induced a sleep of six to ten hours. The full report of the cases referred to was published in the *Berlin Klin. Woch.*, No. 42, 1892.—*The Medical Age.*

Salol Gargle.

Siefert (*Centralb. f. Klin. Med.*) confirms Georgi's favorable report. He used salol as a wash or gargle in ulceration of the tongue, stomatitis, angina, and diphtheria, first dissolving six parts of salol in one hundred of spirit, and then adding a dessertspoonful of this solution to a glass of warm water. Seifert also used salol as a powder for insufflation, but he finds it less beneficial than iodol, because, though antiseptic and non-irritating, it does not adhere sufficiently well to mucous membranes and ulcerated surfaces.—*Quarterly Therapeutic Review.*

A New Antiseptic Mixture.

Dr. Cavazzini recommends for dressings the following antiseptic powder :

℞.—Iodoform, 55 parts.
$\left.\begin{array}{l}\text{Salicylic acid,}\\ \text{Bismuth subnitrate,}\end{array}\right\}$ aa 20 parts.
Camphor, 5 parts.

The powder is of a yellow color, and free from disagreeable odor. Torpid and fungoid granulations are favorably influenced, and suppuration is greatly diminished.—*American Journal of Pharmacy.*

Hyperidrosis of the Feet.

Kaposi recommends the following prescriptions for this annoying condition :

℞.—Naphthol, gr. xxij.
Glycerin, gr. xlviij.
Alcohol, ℥ j.

Sig. : Apply night and morning ; then dust.

Or the following :

℞.—Pulv. naphthol, gr. v.
Pulv. amyli, ℥ j.

Every morning. —*La Semaine Médicale.*

[We have found a dilute solution of permanganate of potassium a very useful wash in these cases.—G.C.]

OBSTETRICS

IN CHARGE OF

ADAM H. WRIGHT, B.A., M.D. Tor.,
Professor of Obstetrics in the University of Toronto; Obstetrician to the Toronto General Hospital.

THE TREATMENT OF PUERPERAL CONVULSIONS.

M. Charpentier (*Gazette des Hôpitaux*, January 21, 1893; *Sheffield Medical Journal*, April, 1893) closed a recent communication to the Paris Academy of Medicine with the following conclusions: If during pregnancy there is albumin in the urine, however small the amount, an absolute and exclusive milk diet should be insisted upon from the start. It is *par excellence* the preventive treatment of eclampsia. If a convulsion occurs, and the patient is vigorous and very cyanotic, she may be bled to the extent of sixteen ounces, and then chloral and milk given as soon as possible; if she is not so strong, if the cyanosis is less marked, and if the attacks are not so frequent, chloral alone is enough. Labor should be allowed to begin spontaneously, and, if possible, it should be allowed to terminate without interference. If it is delayed by feebleness of the uterine contractions, the forceps may be applied, or the child turned if it is living; if it is dead, craniotomy may be resorted to. Before instruments are used, the os uteri should be completely dilated or dilatable. It is only in exceptional cases, where medical treatment has failed, that labor should be brought on. The Cæsarean operation and *accouchement forcé*, especially by deep incisions into the cervix, should be absolutely rejected.—*New York Medical Journal.*

[I have lost a good bit of my old-time reverence for the "exclusive milk diet." I have stopped forcing milk down the throats of people who detest it, whose stomachs rebel. I have almost forgotten this "exclusive milk" business in the treatment of typhoid fever. However, milk is a good food in the albuminuria of pregnancy. Do not forget, at the same time, buttermilk, koumiss, and various other modifications of milk. I earned the unbounded gratitude of a patient the other day, who was valiantly, and with much groaning, struggling with milk, by recommending buttermilk and a certain kind of mixed diet. The following day she was the happiest creature I had seen for a long time. I would recommend: Milk, or some of its modifications, such as buttermilk, etc.; plenty of water, or mineral waters; bread and butter; rice, tapioca, and the like; greens, such as lettuce, water cress, etc.; a limited amount of certain fruits, such as oranges, bananas, etc. In addition to such diet, I consider the treatment "*par excellence*" to be the administration of small and frequently repeated doses of a saturated solution of Epsom salts, sufficient to cause from four to ten watery motions in the twenty-four hours—to be continued for *weeks* or *months*, if necessary.—A.H.W.]

Bringing Down the Leg in Breech Presentation.

Potocki (*Sem. Méd.*, *Brit. Med. Jour.*) gives the following directions as to the Lachapelle and Pinard manœuvre in bringing down the leg in breech presentations: "The fœtal thigh is seized, drawn outwards and backwards, flexed and abducted; then the foot falls on to the back of the operator's fingers through flexion of the leg, which is spontaneous, and encouraged by the pressure on the muscles of the back of the thigh." He thinks it better to bring down the anterior leg. The procedure should never be attempted until the os is fully dilated.

Strychnine During Pregnancy as an Aid to Labor.

Dr. Duff, of Pittsburg (*Therapeutic Gazette*), has been giving strychnine as a remedy preparatory to labor, under the following circumstances:

(1) When there is general debility and want of muscular power.

(2) When there have been in previous tardy labors irregular and feeble uterine contractions.

(3) When there has been a tendency, after previous labors to post-partum hemorrhage.

(4) When there have been severe after-pains.

He commences six weeks or two months before the "expected" time with strychnine, gr. $\frac{1}{60}$, three times a day, increasing it when well borne to gr. $\frac{1}{40}$-$\frac{1}{30}$.

The Axis Traction Forceps.

The principles upon which Tarnier's axis traction forceps is constructed are now generally recognized as correct, but the instrument has not yet come into general use in all parts of the world. I fear that its use in Canada is very limited. Cameron, of Montreal, so far as my knowledge goes, is entitled to the credit of first bringing it before the notice of the profession in this country, but his efforts to create any enthusiasm over it have met with only partial success. The Edinburgh school has adopted the principle, apparently, without any reservation. Dr. William Keiller, of Galveston, Texas, has written an admirable paper on the subject (*American Journal of Obstetrics*, April, 1893) which is well worthy of careful perusal by all who do obstetrical work. He is an Edinburgh graduate, and an able exponent of the views of that great school on matters pertaining to the use of this instrument. He describes and recommends the Milne-Murray modification of the Simpson-Tarnier forceps, which is so constructed and hinged that there is no interference with flexion, extension, or rotation of the head in its passage.

He considers that it is the best in all operations, whether low or high. With reference to the low operation, he says: "The pelvic canal from the coccyx forward is by no means straight; it is distinctly curved, and the axis is always varying. This is the very place where tears are mostly likely to take place; it is, therefore, of the utmost importance that the head be born in its smallest diameters. In unassisted labor the head descends with its smallest suboccipito-bregmatic diameter in the dilating ring of maternal tissue, and the chin flexed on the sternum, till the occiput engages under the symphysis; then the suboccipital region is caught by the pubic rami, and brow and face rotate round the point. Thus an ever-increasing diameter of the head passes over the perineum: First, suboccipito-bregmatic, smallest of all, then the suboccipito-frontal, suboccipito-facial, and, lastly, the large suboccipito-mental; and if the perineum does not split, it is a wonder. Here, at least, it is the duty of each physician to assist nature, to prevent extension of the head, and to secure that, instead of becoming fixed under the pubic arch, the occiput of the child shall continue to descend with the rest of the head, and that the extension shall not be allowed to take place till after the perineum has been passed. This can be done, when the forceps is not in use, by grasping the head thus—the thumb in the distended anus catching the face, and the fingers over the occiput, so that the whole head is under complete control and its extension can be prevented; while the fingers over the occipital region can drag the occiput down, and encourage descent of the whole child with the head in the flexed position.

"Where the forceps is used, let it be still used as a true axis-traction instrument; by no means forsaking the rods and taking to the handles, as is advised by the Tarnier school. Be more careful than ever to follow the indications as to the axis of traction given by the handles, and get the head born by very gentle traction between the the pains.

"Thus Milne Murray states that in ten years' practice, where he has used axis-traction forceps in all kinds of cases, he has never had a single tear beyond the slight slit in the margin of the mucous membrane which is inevitable in all first labors.

"Personally, I have had very good results. Croom especially emphasizes the use of this forceps in saving the perineum in occipito-posterior presentations.

"Passing now to the high operation, if axis-traction forceps are valuable in the low operation, they are invaluable when the head is at the brim.

"Milne Murray states emphatically that 'a properly constructed pair of axis-traction forceps will deliver a child in a flat pelvis down to the limits which can be dealt with by turning, and with a much greater chance of delivering it alive.' I can myself speak of the comparative ease with which a full-time child can be delivered through a true conjugate of three inches. Milne Murray has delivered a full-time child through a true conjugate of 2.75 inches."

I have used the Murray forceps for some years. I have also carried in my satchel the small Sawyer forceps, and used it in some simple cases when the head was low. My preference now, however, is for the axis-traction forceps in all cases, whether the head is high or low. It appears to me that this modified Tarnier, as a surgical instrument, is about as nearly perfect as anything in this world can be.—A.H.W.

THE LIMITATIONS OF CÆSAREAN SECTION.

In a paper on this subject (*American Journal of Obstetrics*) read by Dr. Robert A. Murray at the last meeting of the New York State Medical Society, we find the following conclusions:

(1) Cæsarean section should be done always where the conjugata vera is below two and three-quarter inches.

(2) It should be done in the Roberts or Nægele pelvis with marked deformity, or where there is fixation of one or both sacro-iliac synchondroses from diseases—cases in which pubiotomy would be ineffective.

(3) It is the best operation with diameters even larger than two and three-quarter inches, when the child's head is large and could not probably pass with a living child if pubiotomy were done.

(4) Where tumors or exostoses are present, the Cæsarean section or the Porro operation is the best.

(5) In cases of cancer of the cervix it should be chosen rather than pubiotomy, and should be done before labor sets in, so that no sepsis result.

(6) The size of the child's head, in moderate contractions at the superior strait, will oftentimes be the determining factor as to whether an elective Cæsarean section or a pubiotomy be the best operation.

CANCER OF THE CERVIX UTERI COMPLICATING PREGNANCY.

That cancer of the cervix does not prevent impregnation is a fact so well known as to require no comment; indeed, every gynecologist can recall cases in which it has occurred at such an advanced stage of the disease as to seem almost incredible. The presence of extensive necrosis, with a constant acrid discharge, has seemed to be no bar to the activity and progress of the spermatozoa, provided that there was not actual mechanical obstruction in the form of extreme cicatricial contraction of the canal. The history of Cæsarean section furnishes numerous examples of this, and I could cite others in which pregnancy advanced several months in patients with incurable malignant disease of the cervix uteri, and was entirely unsuspected until abortion followed a palliative operation. I believe that, under some circumstances, incipient epithelioma actually favors conception in those who have been long sterile, by determining an unusual flow of blood to the uterus, and thus increasing, so to speak, the receptivity of the endometrium.—*Henry C. Coe, M.D., in American Journal of Obstetrics.*

Fœto-Placental Circulation During Delivery.

Cariglia (*Nouv. Arch. d. Obstet. et de Gyn.*, Vol. vii., No. 9) has shown by experimental observation that the afflux of blood, which the fœtus receives from the placenta directly after the birth, is caused by the contraction and retraction of the uterus. His conclusions are :

(1) The blood passes to the fœtus even in the absence of respiratory movements.

(2) Even after respiration is established, the weight of the child varies with the uterine contraction and retraction.

(3) In premature expulsion of the placenta the child loses weight.

(4) The pressure in the vena cava is not sufficient to prevent the passage of the blood from the placenta to the child. This resistance, moreover, is diminished by respiration. Since a diminution in the weight of the child is noted during the first movements after birth, immediate ligature of the cord deprives the newborn infant not only of the reserve blood, but of a part of its own.—*Brooklyn Medical Journal.*

SURGERY

IN CHARGE OF

L. M. SWEETNAM, M.B. Tor.,

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How to Administer Chloroform Properly.

Mr. W. J. Cleaver gives the following valuable advice in regard to the administration of chloroform : Take your folded towel or cap of flannel stretched over a wire frame, and your chloroform bottle, graduated if you like, but this is of no consequence ; let the temperature of the operating room be at least sixty-five degrees F.; if your patient be one of very nervous kind, give from half an ounce to an ounce of brandy an hour beforehand; put your catch forceps or your tongue forceps on the pillow beside you; pour a dose of chloroform, a drachm or two, on to the towel or cap and hold it, to commence with, two or three inches away from the mouth and nose of your patient, gradually bring it nearer, but never so near as to exclude air from mixing with the chloroform vapor; at the same time keeping your mind and eye on the respiration movements alone. If the patient shows any symptoms of struggling, let assistants take hold of his wrists and allow him to move his arms about as long as he does not interfere with the administration. If he endeavors to get up, he must of course be restrained; but on no account let half a dozen dressers throw themselves upon him, their united weight coming probably near upon half a ton. What chance has free respiration in such a case? A little pressure on the shoulders will, in ninety-nine cases out of a hundred, be found to be quite sufficient; when a patient is forcibly held down with half a dozen big men on top of him, his struggle ends in a kind of nightmare, with perhaps a fatal shock at the close of it. Continue the administration quietly and gradually, without being put out of countenance by the repeated demands of the operator—to know whether he is not yet under; and such remarks as, I never knew a man take such a lot, put it closer to his nose, what a time he is getting under, etc., etc. You are giving the chloroform, not the operator; therefore take no heed of him. When there is no conjunctival reflex, and a pinch on the abdomen bears no result, the pupil of the eye fairly contracted, and the breathing regular, but perhaps stertorous, you can allow the operating surgeon to proceed.

Pay no attention to the operation, however interesting it may be; watch your patient's breathing only, and continue the chloroform when you see any signs of returning consciousness. If you do this, and this only, you will never have cause to regret it.—*Medical and Surgical Reporter.*

Our personal experience leads us to say that the average anæsthetist varies too much the proportion of chloroform vapor inhaled by the patient. Now he pours half a drachm of the anæsthetic upon the towel, and the patient's life is endangered by an overdose; now he absolutely withholds it, and muscular rigidity with movement of the limbs indicate approaching consciousness.

Our ideal anæsthetist administers the chloroform constantly, but drop by drop, until complete anæsthesia is produced, when the interval between the drops is lengthened. Dropping, not pouring, is the secret of success in chloroform administration.—L.M.S.

ICHTHYOL IN ERYSIPELAS.

Since the abandonment, some years ago, of iodine as an application in the treatment of erysipelas, there have been many competitors for the place once held by this drug in the confidence of the profession, as well as that of the laity.

Of these none—white paint not excepted—can approach in popularity to ichthyol sulpho-ichthyolate of ammonium). In speaking of this remedy, Dr. T. S. Morton (Philadelphia Polyclinic) says: "Where the face or scalp is invaded a 30 per cent. mixture of ichthyol in lanolin is smeared upon the parts and gently rubbed in every two hours. But where dressings are applicable the ointment (the same strength) is spread upon lint, applied thus to the parts, and covered in with wax paper and a bandage.

"A considerable experience with various remedies for erysipelas in pre-antiseptic days, and occasional cases since, has led me, in view of the results attained with ichthyol, to believe that in this agent we have the most powerful and satisfactory remedy that has yet been introduced. It is scarcely necessary to add that wounds through which infection has passed must be sterilized before the ointment is applied. It is my habit to accomplish this by spraying first with hydrogen dioxide, then washing with 1-100 sublimate solution, and finally dusting in aristol or iodoform thickly. The ointment is then spread on without intermediate dressing."

While ichthyol is particularly useful in erysipelas, it is also indicated in superficial phlegmons, cutaneous hyperæmias generally, and inflammation of the superficial parts.—L.M.S.

The Present Position of Gall-Bladder Surgery.

The frequent occurrence of symptoms which (with our increased knowledge of the diseases of the gall bladder and their treatment) we recognize as indicating surgical interference justly claims our consideration of the following conclusions recently presented by Czerny (*Epitome of Medicine*), and which appear in a recent issue of the *Atlanta Medical and Surgical Journal:*

(1) Gallstones require operation, if they cause frequently repeated or lasting trouble.

(2) Empyema of the gall bladder imperatively demands operation, as does hydrops, if it gives serious trouble.

(3) The typical operation for gallstones consists in incision, removal of the stones, and suture of the gall bladder; in this, however, the abdominal wound should be drained for a short time.

(4) If the cystic duct is closed, if the gall bladder is the seat of inflammation, or the contents are greatly altered, then a temporary gall bladder fistula must be made.

(5) Extirpation of the gall bladder is indicated only in cases of severe inflammatory or carcinomatous involvement.

(6) When the ductus choledochus is closed, the operation is absolutely indicated if the strength of the patient will permit. If one does not suc-

ceed in removing the stone or obstruction, then it is recommended to produce a fistula between the gall-bladder and duodenum.

(7) The best incision for gall-bladder operations is an ⌋-shaped cut; the vertical limb lies in the linea alba, and the horizontal part runs towards the right just below the level of the umbilicus.

(8) The danger to life in gallstone operations will be probably less than in operations for vesical calculus.

Thermal Death Point of Bacteria.

We have several times recently been asked for information as to the thermal death-point of the more important bacteria. As an answer to these inquiries we cite the following, taken from Sternberg's admirable "Manual of Bacteriology":

The temperature favorable for the growth of most bacteria is between 20° and 40° C. Some species are able to multiply at the freezing temperature, and others at as high a temperature as 60° to 70° C. As a rule, the parasitic species require a temperature of 35° to 40°; low temperatures do not kill bacteria.

Pruden has made extended experiments upon the influence of freezing. Staphylococcus pyogenes aureus withstood freezing for sixty-six days, a fluorescent bacillus from Hudson River ice for seventy-seven days, and the bacillus of typhoid fever for one hundred and three days.

Cadéac and Malet kept portions of a tuberculous lung in a frozen condition for four months, and found that at the end of this time tuberculosis was still produced in guinea-pigs by injecting a small quantity of this material.

In considering the influence of high temperatures, we must take account of the very great difference in the resisting power of the vegetative cells and the reproductive elements known as spores; also of the fact as to whether dry or moist heat is used, and the time of exposure.

Dry heat. When micro-organisms in a desiccated condition are exposed to the action of heated dry air, the temperature required for their destruction is much above that required when they are in a moist condition, or when they are exposed to the action of hot water or steam.

The spores of bacillus anthracis and of bacillus subtilis resisted this temperature (120° C.), and required to insure their destruction a temperature of 140° C., maintained for three hours. This temperature was found to injure most objects requiring disinfection, such as clothing and bedding. But the lower temperature which destroys micro-organisms, in the absence of spores (120° C. = 248° F.), can be used for disinfecting articles soiled with the discharges of patients with cholera, typhoid fever, or diphtheria, as the specific germs of these diseases do not form spores. It is probable also that it may be safely used to disinfect the clothing of smallpox patients, for we have experimental evidence that a lower temperature destroys the virulence of vaccine virus (90°-95° C.—Baxter).

In practical disinfection by means of dry heat, it will be necessary to remember that it has but little penetrating power. In the experiments of Koch and Wolffhügel, it was found that registering thermometers placed in the interior of folded blankets and packages of various kinds did not show a temperature capable of killing bacteria after three hours' exposure in a hot-air oven at 133° C. and above.

Moist heat. The thermal death-point of bacteria, in the absence of spores, is comparatively low when they are exposed to moist heat. The results of the writer's experiments are given below.

The results obtained in these experiments, for non-sporebearing bacteria, are given in the following table. The time of exposure was ten minutes, except for the cholera spirillum and the cheese spirillum of Deneke.

THERMAL DEATH-POINT OF BACTERIA.

	Centigrade.	Fahrenheit.
Spirillum choleræ Asiaticæ	52°	125.6° (4 m.)
Spirillum tyrogenum (cheese spirillum)	52	125.6 (4 m.)
Spirillum Finkler-Prior	50	122.
Bacillus typhi abdominalis	56	138.8
Bacillus of schweine rothlauf (rouget)	58	136.4
Bacillus murisepticus	58	136.4
Bacillus Neapolitanus (Emmerich's bacillus)	62	143·6
Bacillus cavicida	62	143·6
Bacillus pneumoniæ (Friedlander's)	56	132.8
Bacillus crassus sputigenus	54	129.2
Bacillus pyocyanus	56	132.8
Bacillus indicus	58	136.4
Bacillus prodigiosus	58	136.4
Bacillus cyanogenus	54	129.2
Bacillus fluorescens	54	129.2
Bacillus acidi lactici	56	132.8
Staphylococcus pyogenes aureus	58	136.4
Staphylococcus pyogenes citreus	62	143.6
Staphylococcus pyogenes albus	62	143.6
Streptococcus pyogenes	54	129.2
Micrococcus tetragenus	58	136.4
Micrococcus Pasteuri	52	125.6
Sarcina lutea	64	147.2
Sarcina aurantiaca	62	143·6

The following determinations of the thermal death-point of pathogenic organisms have been made by the authors named: Bacillus anthracis (Chauveau), 54° C.; bacilius mallei—the bacillus of glanders—(Lœffler), 55° C.; bacillus gallinarum—micrococcus of fowl cholera—(Salmon), 56° C.; bacillus of diphtheria (Lœffler), 60° C.

In the writer's experiments, the micrococcus of gonorrhœa was apparently killed by exposure for ten minutes to a temperature of 60° C.

The experimental data given show that the pathogenic bacteria tested and different kinds of virus are all killed by a temperature of 60° C. or below; some, like the cholera spirillum and micrococcus pneumoniæ crouposæ, failing to grow after exposure to as low a temperature as 52° C. for four minutes. By extending the time a still lower temperature will effect the same result. Thus, according to Chauveau, the anthrax bacillus is killed by twenty minutes' exposure to a temperature of 50° C.; and Brieger sterilizes cultures of the diphtheria bacillus, to obtain the soluble toxalbumin produced in them, by exposure for several hours to 50° C. A temperature of 60° has been found to decompose the toxalbumin. The non-pathogenic bacteria tested have, as a rule, a higher thermal death-point—58° C. for bacillus prodigiosus, 64° C. for sarcina lutea, etc.

It is a remarkable fact that certain bacteria not only are not destroyed at higher temperatures than this, but are able to multiply at a temperature of 65° to 70° C. Thus Miquel, in 1881, found in the waters of the Seine a motionless bacillus which grew luxuriantly in bouillon at a temperature of 69° to 70° C. Van Tieghem has also cultivated several different species at about the same temperature, and more recently Globig has obtained from the soil several species which grow at temperatures ranging from 50° to 70° C.

The resisting power of *spores* to heat varies in different species; but the spores of known pathogenic bacteria are quickly destroyed by a temperature of 100° C. (212° F.). In the writer's experiments, the spores of bacillus anthacis and of bacillus alvei failed to grow after exposure to a temperature of 100° C. for four minutes, and only a few colonies developed after two minutes' exposure to this temperature. The thermal death-point of spores of the "wurtzel bacillus" and of bacillus butyricus (of Hueppe) was the same—100° C. for four minutes.

Schill and Pischer, in 1884, made a number of experiments to determine the thermal death-point of bacillus tuberculosis. They found that five minutes' exposure to a temperature of 100° C. in steam destroyed the vitality of the bacillus in sputum in five minutes. When the time was reduced to two minutes a negative result from inoculation was obtained in two guinea-pigs, but one inoculated at the same time became tuberculous. My own experiments and those of Yersin, made since, lead me to think that there may have been some cause of error in this experiment of Schill and Fischer, and that the thermal death-point of the spores of bacillus tuberculosis is considerably below the boiling point of water.

In the practical application of steam for disinfecting purposes, it must be remembered that, while steam under pressure is more effective than streaming steam, it is scarcely necessary to give it the preference, in view of the fact that all known pathogenic bacteria and their spores are quickly destroyed by the temperature of boiling water.

A LESSON IN ANTISEPSIS.

The scene occurred in one of the most prominent of our New York hospitals, the time of action was within the last five years, and the *dramatis personæ* were a patient who was to have a portion of his cerebral cortex removed, one of the best of New York surgeons, a prominent neurologist, assistants, visitors, and students. The surgeon had deftly and carefully removed the bone and made a flap in the meninges, and the neurologist was about to decide the location of the cortical centre. Turning on the current of his battery, he applied the electrodes to his tongue to determine the strength of the current, and was about to transfer the electrodes to the cortex, when the surgeon, who had watched this method of current-testing with evident concern, arrested the neurologist's hand, saying, at the same time, that the electrodes must be disinfected over again after contact with his mouth. The disinfection of the instrument being completed, the neurologist confirmed the location of the centre, and the surgeon prepared to complete his work. As he took his stool to resume the use of the knife, he found that the light was insufficient; rising, he caught hold of the gas fixture placed above the operating table, pulled it down over the field of work, placed his stool in a little more convenient position, and, forgetting to disinfect his hands, proceeded with the operation. The mote caused by the neurologist's *gaucherie* had been removed, but the beam of the surgeon's forgetfulness resulted in the death of the patient in consequence of suppurative meningitis.—*New York Medical Journal.*

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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URETHROPLASTY IN A CASE OF LARGE DEFECT AND A FISTULA OF THE URETHRA.

Schüller describes, in the *Berliner klin. Wochenschr.*, 1892, No. 34, the following case: The patient was a strong young man, aged thirty years. In 1882, in the course of a gonorrhœa, a small fistula formed just behind the glans, probably in consequence of a perforating chancre of the urethra.

In May, 1887, he was operated upon for the relief of the fistula. In all, twelve to fourteen operations of the most varied character had been performed, including several flap-transplantations from the skin of the prepuce and penus. None of the operations were successful, and, as the flaps sloughed in several instances, the fistula, which was small at first, became large by this loss of substance.

The author first saw the patient in 1890. At this time there was a defect in the anterior portion of the floor of the urethra, into which a five-pfennig piece could readily be admitted. This was separated from the meatus by a thin thread of tissue. One and eight-tenths cm. behind the defect (toward the scrotum) there was a small fistula, through which a probe would barely pass. Between the two openings the skin was cicatricial and adherent. In passing his water the patient was able only with difficulty to protect himself and his clothing, as the stream tended to run back. Some urine was passed through the small fistula also.

Schüller decided to operate on the large defect first, which he did by the following method: Both borders of the deficiency were split longitudinally, rather deeply, and the borders folded out. At the posterior angle the incisions were united. The flaps were thus in two layers, as in Duplay's method of operating in hypospadia, the lower flaps belonging to the urethra, and the upper ones to the skin. The mucous membrane was stitched together first, so that the edges were turned a little toward the urethra, and the skin flaps then united. The small fistula was closed some months later by the same method. Healing occurred, leaving two hair-like fistulæ, probably from suture-tracts. These were closed later.

The result was entirely satisfactory; there was no evidence of stricture, and moderate-sized instruments passed readily.

The operation describes occupies a position midway between flap-transplantation and linear union.—*American Journal of the Medical Sciences.*

Use of Lactic Fermentation in the Bladder as an Antiseptic Application in Cases of Ammoniacal Ccmplications of the Urine.

Roberts (*Lancet*) was consulted by a patient who, five years before, was treated by lithotrity. The patient was compelled to employ the catheter for the complete evacuation of his bladder, at first twice a day, and for the last two years once a day.

At the time of examination there was very little irritation of the urinary passages, and the patient was required to relieve the bladder only once during the night. Examination of the urine showed that it was turbid, intensely acid, and contained sugar. Microscopic examination showed micrococci and bacilli, resembling those seen in souring milk, and also toruli, having the characteristic appearance of yeast cells. There was also pus, and a trace of albumin. The patient complained of none of the usual symptoms of diabetes. A remarkable feature of the case was the maintenance of a sharply-acid reaction of the urine and the absence of recurrent formation of phosphatic concretions in the bladder. The conditions in this case were peculiarly favorable for ammoniacal decomposition and the formation of phosphatic concretions, yet neither of these affections supervened. The explanation of this, Roberts holds, is to be found in the saccharine urine, which favors acid fermentation. In the case noted three fermentations tending to acidity appeared to be going on concurrently. The chief of these was the lactic fermentation, and lactic acid was identified as the main cause of the intense acidity of the urine. The second was the alcoholic fermentation engendered by the yeast cells which were always present in the patient's urine. The third was the acetic fermentation, for acetic acid was clearly demonstrated in the distillate from the urine. Robert states that it is quite certain that if, at some future time, the patient ceases to be glycosuric, and still continues the use of the catheter in a careless way, the urine would, in no long time, be in the grip of the ammoniacal fermentation, and there would then be danger of the formation of phosphatic concretions in the bladder.

This case suggests that lactic fermentation might be turned to therapeutic uses. This agent might be tried in intractable cystitis from ammoniacal decomposition of the urine, and in recurrent phosphatic formations after operations for stone. The mischief in these cases is contingent on the establishment of the ammoniacal fermentation in the bladder, whereby urea is changed into carbonate of ammonia. This change, if it goes far, renders the urine irritating to the mucous membrane and provokes cystitis; it also imparts an alkaline reaction to the urine, with consequent precipitation of the mixed phosphates. If a counter-fermentation of the lactic type could be maintained, the irritating quality of the urine would be diminished, its acidity would be restored, and the further decomposition of phosphates would be prevented. Attempts in this direction might be made by injecting into the bladder a saccharine solution which was in process of lactic fermentation. For this purpose malt extracts are probably the best available means. An ounce of such an extract might be injected once, twice, or thrice a day into the empty bladder, and retained as long as possible. A course of treatment of this kind continued for a week or two would probably give the lactic fermentation the upper hand, and even enable it for a time, at least, to maintain its supremacy after the saccharine injections had been discontinued; for it has been observed that organisms of the lactic type multiply freely in non-saccharine urine, and their presence appears to protect the urine to an important degree against the invasion and development of the ammoniacal fermentation. When the urine is strongly ammoniacal it would be necessary, as a preliminary step, to irrigate the bladder with an acid solution in order to abate the ammoniacal reaction ; because it has been found experimentally that the lactic fermentations cannot proceed in the presence of a high percentage of carbonate of ammonia. For this purpose a solution containing ten grains of citric acid in a pint of warm water might be safely used. Two or three pints of such a solution passed through the bladder would be sufficient to prepare the viscus for the reception of the diluted malt extract, and so render the development of the lactic fermentation within it possible.—*Therapeutic Gazette.*

INDICANURIA AS A SYMPTOM OF LATENT SUPPURATION.

Indican, in small quantities, is a normal constituent of healthy urine, but under certain circumstances the amount is so large as to merit the designation of indicanuria. This condition is usually dependent on decomposition of the intestinal contents consequent on constipation ; but it has recently been discovered in the urine in connection with the formation of pus in such quantities as to authorize the belief that its presence may afford an important indication of latent suppuration. The first thing, of course, is to eliminate the intestinal tract as the source of the indicanuria, and this is done by the administration of naphthol, bismuth, or other disinfectant. Should chemical analysis still reveal the persistence of the indicanuria, there is reason to suspect suppuration. In several cases observed by Dr. Keilmann, of Dorpat, the information thus obtained led to a successful search being made for foci of suppuration, the indicanuria subsiding as soon as the pus was evacuated. The analysis is simple enough to admit of its application by every one, which is more than can be affirmed of many of the tests proposed by laboratory physiologists. Equal quantities of urine and strong hydrochloric acid are shaken together in a test tube, and a little chloroform is added. In the presence of indican this becomes blue from the indigo liberated by the decomposition of the indican, and falls to the bottom of the tube. A fair idea can thus be readily obtained of the amount of indican present, but for purposes of diagnosis it is necessary to resort to a quantitative analysis. This does not involve much additional trouble advantage being taken of the bleaching powers of hypochlorite of calcium, a standardized solution of this salt being dropped into the above mixture until complete decoloration results. Three or four drops of a five per cent. solution may suffice for this purpose, but in some cases as much as fifty, or even eighty, drops may be required.—*Medical Press and Circular.*

CERTAIN FORMS OF NERVOUS DISEASE.

Dr. I. Adler, in a very interesting and instructive paper on "Some remarks on oxaluria and its relations to certain forms of nervous disease," concludes as follows :

I am well aware that these observations are too few in number, and too defective in many respects, to serve as a basis for definite and authoritative general conclusions. The subject is an intensely difficult one, and our knowledge of even its elementary chemical and physiological bearings still very uncertain. Only long-continued and patient analytical and experimental work can ultimately furnish the data for a future physiology and pathology of oxalic acid in the human organism. While not pretending to solve any of the problems connected with this subject, it seems to me, nevertheless, that from the foregoing analyses and observations, as well as from the work of other observers and experimenters, the following conclusions may be provisionally deduced :

(1) Oxalic acid is a normal, though possibly not a constant, constituent of the urine.

(2) The amount present in a given quantity of urine can be determined with any degree of reliability only by quantitative analysis. All approximations by means of microscopic examination are untrustworthy.

(3) The chief source of oxalic acid in the urine is the oxalic acid contained in the food, though it is probable that minute quantities are produced in the course of normal metabolism. Further investigation will have to demonstrate if, and under what conditions, morbid metabolism affects the production of oxalic acid.

(4) Impeded respiration, diseases of the heart and lungs, do not of themselves tend to produce an excess of oxalic acid in the urine.

(5) The establishment of pathological oxaluria as a type of disease *sui generis* is not warranted by the facts at present at our command.

(6) The nerve symptoms assumed as characteristic of pathological oxaluria are not caused by an excess of oxalic acid in the blood and in the urine. Analysis will show that such excess is by no means as frequent as has often been assumed.

(7) Where such excess does occur not to be accounted for by ingesta, it is probably one of several symptoms of metabolic alterations primarily caused by disturbances of the nervous or digestive organs, or both, but no factor in the causation of disease.

(8) In considering the excretion of oxalic acid in the urine, it is of the utmost importance to take into account at the same time excretion of the other principal constituents, particularly urea and uric acid.—*The Medical Record.*

PEDIATRICS

IN CHARGE OF

W. B. THISTLE, M.D., L.R.C.P. Lond.,

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in the Woman's Medical College.

A CASE OF DIPHTHERIA, MEASLES, AND CHICKEN-POX.

William D. Booker, of Baltimore, reports a case of continued diphtheria, measles, and chicken-pox (*Archives of Pediatrics*). In the family there were four children, the eldest aged 9 years, and the youngest 18 months.

Diphtheria occurred first in the third child, and was quite typical. Cultures were made from the throat and diphtheria demonstrated.

Shortly after the attack of diphtheria the oldest child had chicken-pox, and in about two weeks the second child contracted measles, and while sick also had chicken-pox.

While the second child was sick with measles, it was discovered that the youngest child had membrane in the throat, cultures from which gave diphtheritic bacilli and a few streptococci. This diphtheria was seen first on December 21st and on December 29th. The first vesicle of chicken-pox appeared to be followed by a moderately thick eruption over the body, and accompanying the appearance of the vesicles there was considerable fever, cough, coryza, and conjunctivitis.

January 1st. Measles appeared on face, neck, and arms, and on the following day extended to all parts of the body. In some places the patches of measles were seen surrounding the vesicle of chicken-pox. Later, the membrane extended to larynx, and intubation was performed. Child died on January 4th.

Dr. Booker considered that the condition of the throat and air passages resulting from the effects of measles favored the extension of diphtheria into these parts; for prior to the appearance of measles, the throat had become almost free from membrane, while at the autopsy it was discovered in the pharynx, covering the uvula and tonsils, and extending to the larynx, lining the trachea and larger bronchial tubes.

TUBERCULAR NEUROSES OF CHILDHOOD.

Dr. B. K. Rachford (*Arch. of Pediat.*) considers chronic anæmia to be the great foundation cause of the neuroses of childhood, and, while recognizing the part played by syphilis, malaria, and rheumatism in the production of anæmia, he ascribes the underlying blood condition in a very large proportion of cases to tubercular infection. To support this contention, he gives the following figures: Out of 407 cases of tuberculosis under fourteen years of age, taken from the records of the Children's Clinic, Medical College, Ohio, 139 cases had as a complication, or, as might be said, as a symptom, one of the neuroses; that is to say, that 3470 of all cases of tuberculosis occurring in dispensary practice in Cincinnati, Ohio, had some well-marked neuroses. Among other neuroses are included persistent headache, epilepsy, night terrors, panyngismus stridulus, hysteria, etc. Of the 139 neurotic cases from the records, 30 had chorea, 23 had incontinence of urine, and 80 had other neuroses. That 3470 of tubercular cures should have well-marked neuroses is a startling fact; yet it is a statement based on statistics, and not on theory.

It does not follow that tuberculosis was the most important etiological factor in all these cases. A few also had malaria, and three of the chorea cases gave some evidence of rheumatism. But the number of cures included in this list that gave evidences of chronic disease other than tuberculosis are so few that, if excluded, these figures would not be materially changed. This being true, it may be fairly concluded from what had previously been said that the 139 cases of neurotic disease associated with tuberculosis must, for the most part, have had tubercular anæmia, and this must lead to the conclusion that the tuberculosis was at least one of the important etiological factors in these cases. But the conclusion that the cases of tubercular disease having neurotic affections were anæmic does not depend alone on the argument that tuberculosis, as a rule, produces anæmia, and anæmia sometimes produces neurotic disease; for in all recent cases it was demonstrated by blood examination that all patients having a neurosis complicating tuberculosis were invariably anæmic, and in no instance was a case of tuberculosis with neurotic complication found that did not show marked reduction of both hæmoglobin and blood corpuscles.

If instead of noting the cases of tuberculosis complicated with neurotic disease inquiry is made into the percentage of cases of neurotic disease showing evidence of tuberculosis, the figures are not less convincing. Of 61 cases of chorea in dispensary practice 30 gave evidence of tuberculosis, and this same percentage holds for all other neuroses. These facts also bear testimony that tuberculosis is a very important factor in the production of the neuroses of childhood.

The author does not underestimate the importance of predisposing factors, or faulty development, or neurotic inheritance, nor of such exciting causes as fright, adherent prepuce, etc., which may precipitate an attack in a child prepared by inheritance and anæmia for these diseases. All he wishes to do is to give to anæmia, and especially tubercular anæmia, the important position it deserves as a factor in the etiology of the neuroses of childhood.

VULVITIS IN CHILDREN.

In the *Gazette des Hopitaux* a case is reported by Dr. Lop of "gonorrhœal rheumatism" following vulvitis in a girl aged two years. The child had suffered from discharge for a fortnight; it was free, tenacious, and greenish-yellow; the vulva was acutely inflamed. On the ninth day after the commencement of the discharge, a painful swelling appeared in the right radio-carpal joint. On admission into the hospital the wrist was red, tender, and much swollen. There was absence of fever, urethritis, albuminuria, and cardiac or pulmonary complication. It appeared that there was no reason to suspect venereal taint of any kind. The discharge was carefully examined and gonococci discovered. Sublimate lotions and painting of the part with a five per cent. solution of nitrate of silver soon cured the local discharge. After fifteen days of antiseptic treatment, no more gonococci could be found. At the same time the articular complication subsided. Opinion is still divided, but many authorities deny that gonococci is a specific germ, and declare that they have detected it in the vulvitis of virgins.—*Pacific Medical Journal.*

THE RELATION OF RHEUMATISM AND CHOREA.

Dr. Charles W. Townsend presented a paper on the above subject to the American Pediatric Society at Boston, May 4, 1892, and arrived at the following conclusions:

(1) Fright, eye-strain, debility, and school pressure, particularly the latter, which often includes some of the former, are potent exciting causes of chorea.

(2) Rheumatism, although absent from the history of at least half of the choreic patients, occurs with greater frequency among the choreic than the non-choreic cases.

(3) There is an intimate relation between chorea and rheumatism.

(4) The heart murmur so frequently found in chorea, sometimes associated with chorea and sometimes not, is in a considerable proportion of the cases due to endocarditis, and leads to organic valvular disease.

Dr. Floyd M. Crandell next offered a paper on the same subject, and stated that he should class rheumatism, fright, hysteria, excitement, pregnancy, not as all-powerful agents for the production of chorea, but rather as exciting agents for the production of a disease in subjects predisposed to it, the most universal and potent of which is rheumatism.

Dr. Samuel S. Adams presented the third paper on this subject, with the following conclusions:

(1) That chorea is due to rheumatism in but a small percentage.

(2) That the heart murmurs are hæmic in the largest number of cases.

(3) That the successful treatment would seem to exclude latent or apparent rheumatism.

(4) That anæmia and chlorosis are well marked in nearly all cases.

(5) That nerve impoverishment is by far the most potent factor.—*Arch. f. Pediat.*

INJECTION OF ICE-WATER INTO THE INTESTINE.

Dr. Julius L. Salinger again brings to notice the rectal injection of water in the treatment of the bowel diseases of children. He says the method to be preferred is that by which the water is allowed to slowly flow into the bowel, with retention of the water in the bowel as long as possible. He thinks forced injection should never be used, nor should the water be made to flow too quickly into the bowel, as headaches, umbilical pain, vomiting, and even shock may occur.

He uses a simple rectal syringe, or an ordinary fountain syringe, instead of any especial apparatus.

In a child two years old, he injects a pint of ice-water, gradually increasing to a quart, every four hours. His ordinary rule is to inject a pint of ice-water for a child six months old, running up to the amount of a quart for a child two years old, and he finds it rarely necessary to give larger quantities than a quart. This injection not only relieves the diarrhœa and dysentery, but also reduces the temperature.

He says it has almost a specific action in the summer diarrhœa accompanied by vomiting in children.—*Therapeutic Gazette.*

BROMOFORM IN WHOOPING COUGH.

It was used in thirty cases, and the results were uniformly gratifying. It is conveniently prescribed thus :

℞.—Bromoform	M i.	
Pulv. Tragacanth Co.	ʒ ss.	
Syr. Simp	ʒ ss.	
Aq. ad	℥ ss.	M.

This forms a pleasant mixture, and the bromoform is well suspended. In his experience the appropriate dosage of bromoform was as follows: *m*ss. for children under one year, *m*i. up to three years, *m*ii. up to six years—thrice daily to commence with. If necessary, these doses may safely be gradually increased till they are doubled.—*F. W. Burton-Fanning in The Practitioner.*

DIABETES FOLLOWING INFLUENZA—RECOVERY.

The boy, fifteen years old, had been quite well until a month previously, when he was attacked by influenza. Three weeks ago he began to suffer from thirst. This steadily increased, and was a very distressing symptom when he sought advice. His urine began to increase in amount *pari passu* with the thirst, and he had to get up eight or nine times in the night to pass urine. The total amount for the twenty-four hours would appear during the last few days to have been from twelve to fifteen pints. He had lost flesh and strength rapidly. There was no history of diabetes in the family. Urine pale, of typical diabetic appearance, loaded with sugar; specific gravity, 1040. An absolutely strict diabetic diet was ordered, all carbohydrates, so far as possible, being excluded. Under this regimen the patient improved at once. After one week, the daily excretion was about sixty-five ounces of specific gravity 1030, still containing sugar, though in greatly diminished amount. He was then given half a grain of codeia three times daily, immediately after meals. Two days later, nine days from the commencement of treatment, the sugar entirely disappeared. Since that date (March 19th) the urine has remained absolutely free from sugar, and the patient has completely regained health and strength. In the first week of June the diet was gradually relaxed, until by the end of that month the patient returned to his ordinary food, and the codeia was left off altogether.—*Hetherington and Brown in The Lancet.*

PATHOLOGY

IN CHARGE OF

JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,

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UNIVERSAL STAINING FLUID.

Davalos recommends as a universal staining fluid for all kinds of micro-organisms the following modification of Ziehl's solution:—Fuchsin, 0.25; alcohol, 10; carbolic acid (crystals), 5; water (distilled), 100. The solution is to be filtered. Cover-glass preparations should be stained for from 1 to 2 minutes; washed, dried, and mounted in Canada balsam.—*Centralb. f. Bakt. u. Parasit*, May 1, 1893.

SUBCUTANEOUS IMPLANTATION OF PANCREAS: ITS IMPORTANCE IN THE STUDY OF PANCREATIC DIABETES.

E. Hedon: Arch. de Physiol, Oct., 1892.

The pancreas, separated from all of its normal anatomical connections, is able to exist when grafted beneath the skin, continues to secrete pancreatic juice, and to exercise its function as a blood vascular gland. This has been irrefutably demonstrated by (1) the absence of glycosuria in dogs from whom the pancreas has been removed in cases in which there have been subcutaneous grafts; (2) the immediate oncoming of glycosuria in cases in which, after the removal of the abdominal pancreas, the subcutaneous graft has also been removed; (3) the fact that the absence of glycosuria is conditional upon the integrity of the gland implanted, since atrophy of the implantation is followed by glycosuria.—*Rev. Inter. de Brit. Med.*, February 25th, 1893.

McFarland (J.) on the Giant Cell of Tubercle.

Conclusions: (1) Giant cells are cellular monstrosities, accidental, not purposeful, resulting from the overgrowth of epithelioid cells.

(2) This overgrowth is brought about by mechanical or chemical irritation caused by the presence of a foreign body, whether a living or dead micro-organism, or some inert particle.

(3) Being the offspring of a cell possessed of amœboid and phagocytic properties, the giant cell possesses them to some degree, as shown by the ingestion of foreign particles.

(4) Whether living, active tubercle bacilli are thus devoured must remain *sub judice.*

(5) The giant cell exerts no special deleterious influence upon the tubercle bacillus, but seems instead to be injured by it, a more observable degeneration occurring in those cells which contain many bacilli than in those which contain none.

(6) The giant cell of tubercle does not differ essentially from giant cells elsewhere, except that it shows a more marked tendency to undergo cheesy degeneration, a fact probably due to the peculiar poisonous products of the bacilli in the tubercle.—*International Medical Magazine*, Nov., 1892, in *Epitome of Medicine* for Jan., 1893.

The Part Played by Giant Cells in Phagocytosis.

The February number of the *Journal of Pathology and Bacteriology* contains an article by Knud Faber, of Copenhagen, on the "Part played by giant cells in phagocytosis." Faber's conclusions have been reached after experiment upon animals. Using rabbits, he injected subcutaneously a solution of agar-agar which would solidify and remain solid at a temperature as high as 40° C. Twelve injections were made, and the tissues and contained agar examined microscopically, having been removed from the animals at various intervals of times after inoculation. The longest interval allowed to elapse before examination was 80 days, the shortest 1 day.

Giant cells were found to occur constantly after the ninth day among the epithelioid cells of the chronic inflammatory process excited in this way. Their nuclei varied from 2 to 60 or upwards, and were not infrequently collected at the periphery of the cells, as in the giant cells of tubercle. In almost all instances these giant cells contained masses of agar, and, in Faber's own words, "In the agar containing giant cells there now goes on a process which can only be interpreted as a digestion of agar, of which the numerous stages can be followed out by comparing the different cells." The complete digestion of the agar is proven by the use of a mass containing carmine. In some cells, clumps of agar colored by the carmine are visible, whilst in others carmine particles alone can be found—the soluble agar having been removed, but the insoluble carmine remaining. As to the origin of the giant cells in such cases, Faber says that it is easy to see that they originate from epithelioid cells—how, it is difficult to say. Karyomitosis he has not seen, and believes that the nuclei are formed by fragmentations. Fusion of two or more epithelioid cells also seems possible, though certainly it is not so common as direct nuclear division. The writer concludes that "it seems to be a general law that giant cells appear where, in the organism, there takes place (or, at any rate, an attempt is made at) vigorous resorption or destruction of an irritating foreign body, more especially where the object to be resorbed offers a certain resistance."

Tuberculosis in Dogs.

M. Cadiot has examined into the frequency of occurrence of tuberculosis in dogs, and his results are as follows: In 7000 dogs examined at the Alport Veterinary School, 27 were tuberculous, or 1 in 250. The lungs were the organs most frequently affected. It was possible to prove in several cases that the diseased animals had lived with tuberculous people. They were then directly infected, and might, in turn, become sources of infection.—*Le Progrés Médical*, April 1, 1893.

Editorials.

UNIVERSITY PARK HOSPITAL

We publish in this issue a letter from Mr. Mulock, the Vice-Chancellor of the university, to the senate, respecting the present position of the Park Hospital. At a meeting of the senate held on June 2, the Vice-Chancellor gave a full and clear explanation of the history of the various negotiations connected with the scheme. After a prolonged discussion, in which Dr. Burwash, Principal Caven, Chancellor Boyd, Principal Sheraton, and others cordially endorsed the scheme, the following resolution was unanimously carried :

Moved by Dr. Burwash, seconded by Principal Caven : "(1) That this senate recognizes with great satisfaction the fact that in the gift of the late Hon. John Macdonald there is evidence of a disposition to make our university the almoner of a portion of the increasing wealth of our country. We rejoice in the generosity and public spirit which prompt such gifts. We shall ever regard the custody of such benefactions as among our most sacred trusts, and hold ourselves responsible for the faithful observance, to the extent of our ability, of the provisions and conditions under which they are placed in our hands. In the gift for the foundation of the Park Hospital, we recognize a benevolent intention with which this senate is in full sympathy, and which we will use our best endeavors to carry into effect. (2) That the following committee be appointed to confer with the Board of the Park Hospital Trustees and with the trustees of the university concerning the Park Hospital scheme and report to this senate at an early date as to the best method of carrying out its spirit and intention : The Vice-Chancellor, President Loudon, Hon. Chancellor Boyd, Hon. Mr. Justice Maclennan, Rev. Principal Caven, Rev. Principal Sheraton, Rev. Principal Teefy, Mr. George Gooderham, Hon. S. H. Blake, Dr. A. H. Wright, Dr. L. McFarlane, Dr. I. H. Cameron, Mr. George A. Cox, and the mover."

Unfortunately, there has been a certain amount of opposition to the scheme during the past two years, which has been very discouraging to its promoters. We hope, however, that a more intimate acquaintance with the details of the negotiations and transactions connected with the undertaking will remove many doubts and fears that have prevailed in certain quarters. The committee to whom the matter has been referred has commenced work, and will probably have a report prepared for the senate in the near future.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

The last meeting of this young and vigorous society, of which a résumé appears in this issue, was held in Detroit, and is said to have been highly successful. Dr. James F. W. Ross was the only member from Ontario present, and, as he started for North Muskoka on the last evening of the meeting on a holiday trip, we have been unable to get any further details, apart from those furnished in the report as published in this issue. We are pleased to know, however, that Toronto has been chosen as the place for meeting next year. The association has had a standing invitation from Toronto for the last three years, and we are pleased to know that it is now accepted without any dissenting voice.

We have before referred to the fact that this society is American in the broadest sense of the term. Its gates are as freely opened to Canadian obstetricians and gynecologists as to those of the United States. At the Philadelphia meeting in 1890 a Canadian was elected president, there being at that time only two Canadian members, Drs. Wright and Ross. The next year, at the meeting held in New York, the following Canadians were elected to membership: Drs. Cameron, Machell, and Nevitt, of Toronto; Dr. Griffin, of Hamilton; Dr. Howitt, of Guelph; and Dr. Praeger, of Nanaimo, B.C.

Toronto is likely to give the association a hearty welcome. We hope at the same time that many from a distance will come and, by participating in the proceedings, add much interest to the meeting. The date of meeting is to be decided hereafter by the Executive Council.

THE ONTARIO MEDICAL ACT.

Certain proposed changes in the Ontario Medical Act have been freely discussed during the last two years. Much labor in the way of oratory and letter writing has been expended, and not altogether in vain. A bill has been passed by the Ontario Legislature which includes certain rather important amendments. The principal changes will be as follows:

(1) The number of members from territorial divisions will be increased from twelve to seventeen.

(2) The elections will be held once in four, instead of once in five years.

(3) Contested elections will be tried by county judges.

(4) All matters pertaining to fees to be paid by members of the profession towards the expenses of the council will be under the control of

the elected members of the council ; *i.e.*, the representatives of the universities and Medical Council will have no voice and no vote regarding the annual fee.

It will be seen that two burning questions have been settled in a way that is likely to give general satisfaction. The territorial representatives will be increased. The decision as to the *annual fee* will be in the hands of the members elected by the profession at large. This arrangement recognizes the principle that the duties of the " school men " will be directed towards matters pertaining to the curriculum and examinations, rather than questions of finance. Why it was necessary thus to curtail their powers is not very clear, but we cannot see that any harm will come from it.

We sincerely hope that the amended act will settle certain of the *vexed* questions for all time. The agitation has not been pleasant in many respects ; nor has it, at the same time, been an unmixed evil. The apathy of former years respecting council matters has, for the present at least, disappeared ; and the work of our medical legislators will be watched with intelligent and critical interest by their constituents. The next election, which is to be held in 1894, will not be a sleepy one.

Meetings of Medical Societies.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixth Annual Meeting, held at Detroit, Michigan, June 1, 2, 3, 1893.

FIRST DAY—JUNE 1ST.

Dr. Henry J. Carstens, of Detroit, delivered an address of welcome, which was responded to by Dr. Geo. H. Rohé, of Baltimore.

Dr. Geo. F. Hurlbert, of St. Louis, read a paper entitled "Intrauterine Asphyxia, with Report of Three Cases." The first case was delivered by natural means, the other two with instrumental assistance. In all, the fœtal heart sounds had been heard distinctly half an hour before delivery, but somewhat weakened in force. In all, at the time of delivery, the appearance presented by the children was one of extreme pallor, with a deepened tinge of the lips and absolute muscular relaxation. The heart beat at the rate of from 40 to 50 per minute. The usual methods of artificial respiration were resorted to, to the extent of introducing a catheter into the trachea. That air did penetrate was evidenced by the slight crepitus heard during compression of the chest in the expiratory part of the respiratory act. Artificial respiration was maintained until the heart ceased beating; until it ceased to respond to the stimulus presented by the aeration of the blood by the artificial respiration. In none of the cases were there any external evidences of pathologic conditions. The umbilical cords did not exceed the normal limits, but in all three cases blood clots were found occupying the placental surface in more than half of its area. These clots were well formed, intimately attached to the placental tissue, and smooth upon the uterine side. There was nothing to indicate that the clot had been torn from the uterine surface, but rather that placental separation had taken place and the clot had formed and become adherent to the placental tissue. So far as the mothers were concerned, they were in average good health; the first was a primipara, the last two multiparæ. The labors had not been more than twelve hours in duration, and presented no abnormality other than that in the first case the delivery was of the "piston-rod" variety, the head being forced down to the perineum at each pain, and promptly receding to the brim upon the disappearance of the pain. In none of the cases were the pains sustained and vigorous, but rather short and inefficient. In none was chloroform used, and in only one, the first, a rectal injection of twenty grains of chloral was given during the first stage. The element of compression upon the head was not at all pronounced, and would not have attracted attention. In the last two cases there was no pulsation appreciable in the cord; in the first case no record of this fact had been made. The children were separated from the mothers immediately, and in the first a small amount of blood was permitted to escape from the severed end of the cord. Unfortunately, in none of the cases was a *post-mortem* examination obtained. There was only a moderate amount of the amniotic fluid following the birth of each child. In the first two cases dilatation was well advanced before the membranes ruptured; in the last case rupture occurred at the beginning of dilatation.

Dr. Henry J. Carstens, of Detroit, Mich., related a case similar to those reported, and attributed the condition of the child to either large doses of ergot, given by an irresponsible practitioner, or to some disturbance of the centres of respiration.

Dr. John M. Duff, of Pittsburgh, expressed the view that in the case of stillborn children—when apparently before birth they were well, the heart beating properly, etc.—death is due to cerebral hemorrhage. He has seen two *post-mortem* examinations within the past two years corroborative of this view.

Dr. Wm. H. Wenning, of Cincinnati, read a paper on "Placenta Prævia."

He pointed out that the pathology of placenta prævia is far from being definitely settled, owing to the discrepancy between clinical phenomena and anatomic demonstrations. The term was originally employed to express the fact of the after-birth lying before, which might apply to a prolapse of the placenta as well as a primarily low insertion. At the present day it implies a fixation of the placenta to the lower pole of the uterine cavity. Omitting minor points of discussion, the placenta may be said to be prævia when it is inserted wholly or in part to that portion of the lower uterine segment which is subject to distention in pregnancy or labor.

Dr. John Milton Duff, of Pittsburgh, read a paper entitled "The Care of Pregnant Women."

He said that every pregnant woman needs moral and hygienic, if not medical, treatment from the time pregnancy is recognized until convalescence from the lying-in.

Before attending a woman in labor the physician should be familiar with her personal and family history (medically speaking), so that he may note personal or family idiosyncrasies; discover and treat diseased conditions, if present; determine the presentation, if not the position, of the child *in utero*; ascertain the dimensions of the pelvis, the presence of deformities, and the general physical condition; and judge of her ability to withstand the throes of labor—in short, so that he may be able to anticipate any accident or abnormal condition that might arise during labor, and, if possible, to ward it off or treat it promptly, scientifically, and successfully.

Attention was called to strychnine as an adjuvant in the treatment of disorders of pregnancy and as an aid in parturition.

Good results were reported from the systematic administration of doses of from one-thirtieth to one-sixtieth of a grain three times a day for from two to six weeks prior to the expected onset of labor.

Dr. Edmund M. Pond, of Rutland, Vt., read a paper entitled "Dilatation of the Cervix for Dysmenorrhœa," in which he advocated the use of a light Palmer dilator, and packing the uterus when the cervix is elastic; to be repeated, if necessary. In case of failure, a heavy dilator is to be tried. If the cervix is long, conical, and cartilaginous, and dilatation and packing have failed, free division from the internal to the external os, dilatation with a light instrument, and introduction of a stem pessary, to be worn from ten to fourteen days, are to be recommended.

Dr. Geo. S. Peck, of Youngstown, O., read a paper on "Extra-uterine Pregnancy," and reported several interesting cases.

Dr. Eugene Boise, of Grand Rapids, Mich., read a paper on "The Nature of Shock." He concluded that shock is not a paresis, either partial or general, of the vaso-motor nerves, but a hyper-irritation of the entire sympathetic system. The skin is pale and livid, from contraction of the arterioles, in consequence of stimulation of their vaso-motor nerves. The heart's action is rapid from stimulation of its sympathetic nerve supply. There is scanty secretion of urine from contraction of the renal arteries as a result of stimulation of their nerve supply. The skin, though pale and livid, is bathed in perspiration from stimulation of the secretory nerves of the glands. The pupils are dilated from stimulation of their sympathetic nerve supply. The pulse at the wrist, while rapid and small, as would be expected in vaso-motor stimulation, is soft and compressible in consequence of the scanty relaxation or dilatation of the heart. The condition of the heart may not have been actually demonstrated, but may justly be inferred by analogy—reasoning from the action of the uterus under similar conditions. Each contraction of the uterus is normally followed by a period of perfect relaxation. Over-irritation or stimulation of the uterine ganglia or sympathetic nerve-supply causes rapid contraction, with very imperfect relaxation. It is fair to infer the same condition in the heart under similar conditions. Thus the supply of blood to the arteries is scanty, and the blood pressure is low. That the condition of the heart is one of stimulation rather than of paresis may be considered demonstrated by the fact that, in cases of sudden death from severe shock, the heart has been found contracted and empty. Admitting the correctness of this pathology, it follows that the treatment should be conducted on the line of sedation to the sympathetic system, as by amyl nitrite, nitro-glycerin, morphine, and the application of moist heat, *first*, to the surface ; *second*, through the long tube in the colon ; and, *third*, by transfusion of a saline solution at a comparatively high temperature.

SECOND DAY—JUNE 2ND.

Dr. Walter P. Marston, of Detroit, read a paper entitled "A Contribution to the Pathology of Surgical Diseases of the Gall Bladder."

Dr. James F. W. Ross, of Toronto, followed with a paper on "A Few Practical Notes on the Establishment of Anastomosis between the Gall Bladder and Intestine for Obstruction of the Common Duct, with the Relation of a Case of Obstruction of the Common Duct by a Small Growth." (See page 410 in this issue.)

The president, Dr. L. S. McMurtry, delivered the annual address. His subject was "The Present Position of Pelvic Surgery." After a brief sketch of the history of ovariotomy, it was pointed out that from its beginning the department of pelvic surgery has been promoted and advanced by the labors of a few men. When the new surgery of the peritoneum was introduced, it was seized upon in a reckless way by the multitude, and for a time its very existence was threatened. The splendid results of the few who were trained for the work by a rigid apprenticeship were made the basis of operations by many wholly unprepared to carry out an exacting and difficult practice. Operations were undertaken upon inadequate and erroneous conceptions of pathologic conditions, and even, indeed, without any definite pathologic data whatever, until in many influential quarters the greatest discredit was thrown upon the work of able and conscientious men who were masters of pelvic pathology and pelvic surgery.

Dr. Rosenwasser, of Cleveland, Ohio, read a paper entitled "What are the Indications for Abdominal Section in Intra-pelvic Hemorrhage?" He offered the following conclusions:

Intra-pelvic hemorrhage may be free into the peritoneal cavity, or primarily or secondarily circumscribed by true or false membranes. Though nearly always due to ruptured ectopic pregnancy, the same surgical principles underlying the treatment of other similar hemorrhages are applicable in intra-pelvic hemorrhage. Such treatment must, therefore, vary according to the conditions dependent on the hemorrhage, and, secondarily, on the original cause of the hemorrhage; hence to prevent free intra-pelvic hemorrhage, abdominal section is indicated in all cases of presumably recognized unruptured tubal pregnancy, either as prophylactic, or for the purpose of removing pathologic conditions not otherwise curable. In all cases of free intra-pelvic hemorrhage, from whatever cause, early or immediate section is the only safe means of averting a fatal termination. In cases of circumscribed intra-pelvic hemorrhage, section is indicated for the removal of increasing blood clot and *débris*, whether due to recurrent bleeding or continued growth of a fœtus; and whenever the symptoms indicate decomposition of the blood clot. Lastly, section is also indicated whenever the pressure of the circumscribed blood mass causes obstruction of the bowel.

Dr. H. W. Longyear, of Detroit, read a paper entitled "A Plea for Better Surgery in the Closure of the Abdominal Incision." From investigation and observation, he has concluded that suppuration of the wound made in abdominal incision can occur with either method, but is much less liable to take place with the buried suture, if properly placed and sealed, than with the *en masse* suture, as, in the latter, pyogenic germs may enter the wound *via* the sutures or their sinuses. In fact, suppuration is often the result of the dragging in of germs attending the removal of the *en masse* suture.

Very thin or very fat walls lead to the development of hernia after abdominal incision, by preventing the accurate coaptation of the aponeuroses, which could only take place with the *en masse* suture, and would be prevented by the use of the buried method. The extra-peritoneal treatment of the tump in either case is bad, and will some day be considered unsurgical; but if the fascia is brought closely around the stump and held there by the buried suture until it forms a solid, firm ring around it, the viscera will be less liable to burst through it than if sutured but for nine or ten days, and afterward wedged apart, before firm cicatrization has had time to take place. When the aponeuroses form solid union with the buried suture no bandage will be required, as they are as strong as before incision. Imperfect closure is very much less liable to occur when the exact method of the buried suture is used than with the "guess" method of the *en masse* stitch. In one it is known that the fascia is approximated, while in the other there is less certainty. Long incisions are always to be deprecated, but if healed by first intention after the use of the buried suture hernia cannot occur, as by this method the chance of the interposition of other tissues between the apposed edges of the fascia is obviated. The straining of vomiting resulting from the nausea of prolonged anæsthesia need not be feared when the buried suture is used, as the fascia cannot be separated with any such force when united with a strong suture. Too early rising is only to be feared after removal of sutures, and as the buried suture remains indefinitely to exert its restraining force this cause has to do only with the *en masse* suture.

Drainage will be required with both methods of suture, but with the increasing tendency to use small tubes the danger is becoming much less. Large gauze drains should be avoided on this account. The buried suture, however, properly protected from the drainage opening by one *en masse* stitch, will usually insure solid union of the fascia close to the tube, and thus give the best result. Failure to take up the aponeurosis in the suture can only occur with the *en masse* stitch. Too early removal of sutures can only occur with the *en masse* stitch, and is obviated by using the buried suture. The use of soft catgut is permissible only when the safe tendon suture, or even silkworm gut or silver wire, cannot be obtained.

If the patient becomes too fat, the cicatrix of the aponeurosis will not separate if reinforced with a strong tendon suture. Non-union of muscles is not likely to occur if their sheaths are properly approximated and held in place by the buried suture. If cut transversely, a fine tendon will insure their union. The use of the interrupted suture is easily obviated by simply using the buried animal suture in the closure of all abdominal incisions.

Dr. C. A. L. Reed, of Cincinnati, contributed a paper entitled "The Management of the Abdominal Incision."

He said that the occurrence of suppuration and of ventral hernia in the line of the abdominal incision pointed to some defect of technique or management. In preparation, it was recommended that, first, an application of oil be made, followed by ether, with some strong alkali; then cleansing with clear water, followed by the persistent application, for over half an hour preceding the operation, of a strong solution of mercuric chloride. The incision should be made carefully in the median line through the linea alba, and the peritoneum should immediately be laid open smoothly with the knife. In closure it was recommended that an interrupted suture of silkworm gut be passed from within outward on both sides entirely through the tissues, but so passed that it enters the wall of the peritoneum near the margin, dips deeply into the median tissue, and is brought out near the margin of the integument. The sutures should not be tied too tightly, and with the knot to one side of the incision. The wound should be dressed with aristol, boric acid, and a bandage carefully applied. When the sutures are removed a firmly-fitting adhesive strip should be applied that will not cause compression of the incision, with a consequent tendency to separate the internal margin.

THIRD DAY—JUNE 3RD.

Dr. John C. Sexton, of Rushville, Ind., contributed a paper upon "The Causation and Prevention of Central Laceration of the Perineum."

He pointed out the rarity of the accident, as a result of the many almost perfect methods of prevention. Among the deformities and irregularities of formation that tend to cause the accident are defective or abnormal development of the perineum or pubes, and anomalies of the expellant forces and positions of the vertex. The use of chloroform to a degree suspending the action of the uterine muscles was advised against as dangerous. Resort to episiotomy was especially cautioned against. It was insisted that timely and skilful use of the forceps could prevent central laceration of the perineum.

Dr. X. O. Werder, of Pittsburgh, contributed a paper entitled "Pregnancy following a Partial Suprapubic Hysterectomy, complicated by Hemorrhage through the Abdominal Cicatrix."

The interesting points of the case reported were:

The discharge of the menstrual flow through a small fistulous opening remaining after a partial supra-vaginal hysterectomy; and the occurrence of pregnancy eight or nine weeks after the operation in a woman previously sterile.

The pregnancy terminated at about term in the delivery of a healthy, though poorly developed child, in spite of a firm and unyielding fixation of the uterus to the abdominal wall, and in spite of frequent and profuse hemorrhage from the placental site through the sinus opening in the lower angle of the abdominal cicatrix.

Dr. George H. Rohé, of Catonsville, Md., read a paper entitled "Further Observations on the Relation of Pelvic Disease and Psychical Disturbances in Women." He gave the further history of eighteen cases reported last year in which the uterine appendages of insane women were removed for pelvic disease. Two additional cases have been operated upon. In both, the ovaries were cystic. Of these twenty cases, there was physical recovery from the operation, with improvement of the general health in eighteen ; death in two ; absolute mental recovery and discharge from the hospital in four ; complete physical and partial mental recovery in three ; decided mental improvement, but not sufficient to justify discharge from the hospital, in seven. In three the mental condition remained unchanged, but the physical condition was decidedly better. In one case the patient was removed from the hospital by friends a few weeks after operation and placed in another institution, where she is reported to be worse mentally. A case of melancholia with suicidal tendencies was also reported in which a badly-lacerated cervix was repaired, with complete and rapid mental recovery and discharge.

The following officers were elected :

President, Dr. George H. Rohé, of Catonsville, Md. ; first vice-president, Dr. Walter P. Manton, of Detroit, Mich. ; second vice-president, Dr. George F. Hurlbert, of St. Louis, Mo. ; secretary, Dr. William Warren Potter, of Buffalo, N.Y. ; treasurer, Dr. X. O. Werder, of Pittsburgh, Pa.

It was decided to hold the next meeting at Toronto, Canada, at a date to be fixed on by the Executive Council.—*Medical News.*

Correspondence.

PARK HOSPITAL.

To the Senate of the University of Toronto :

As president of the Board of Trustees of the Park Hospital, I have been requested by the board to address you in regard to the present position of the hospital.

As you are doubtless aware, the Wycliffe College property was purchased for $60,000, the donation of $40,000 from Hon. John Macdonald having been applied on account of purchase money, the unpaid portion amounting to $20,000 being secured by mortgage on the property, payable at the end of five years, and bearing interest at the rate of six per centum per annum, payable half-yearly in the meantime. This mortgage is held by the Canada Life Assurance Company, who also hold as collateral security the bond of eight of the trustees for payment of the interest till the principal is due. The half-year's interest due last November was not paid, and the company allowed payment thereof to be deferred till May. Thus a year's interest became due on or about the 1st instant, and the company require payment this month, otherwise threaten proceedings. Some of the sureties for this interest are quite willing to pay their rateable proportion; others, it is said, are not. The adverse criticism to which the scheme has been subject, and the belief that such criticism will be continued if any attempt be made to advance the scheme, has paralyzed the movement. Some of the many influential and wealthy citizens who identified themselves with it have withdrawn from all connection, whilst nearly all of the remainder desire to do so. Several persons who intended to give substantial aid have been discouraged in such intentions, and some at least have entirely altered the same. Thus the scheme, once full of promise, has been almost wrecked; the only thing required to complete such result being that the company sell the property under their mortgage.

The company may adopt either of the two courses, namely, may collect interest on their mortgage from the sureties until maturity of the mortgage, and then proceed against the property for principal money, or may now proceed against the property itself by bringing the same to a sale or foreclosure. When this stage is reached there will disappear, I fear, the last chance for the university having an hospital under its control. The establishment of such an institution must depend, I think, upon private charity. If Mr. Macdonald's generous act becomes abortive, no one is likely to again bring such an opportunity within the reach of the university. The Park Hospital scheme, if carried out, will in time, I believe, afford to the University Medical Faculty hospital facilities at least equal to those supplied to McGill by the Victoria Hospital, in which already some professional appointments have been made. Without the hospital our university might find the prestige of its Medical Faculty eclipsed by the attractions of the more fortunate McGill. Thereafter our Medical Faculty will be maintained at great disadvantage; in fact, it may be a question whether it will be able, in the long run, to survive so unequal a contest.

These views, strongly as I entertain them myself, I present with much diffidence, not knowing whether they are shared in by the medical gentlemen connected with the university. Whether it is possible for the senate to avert the threatened destruction of the scheme I cannot say, though I think that even yet it might be saved were the senate to manifest some sympathy with it. It appears to me reasonable to assume that no one is likely to contribute of his means towards the project intended largely for the university's benefit, but which does not receive the senate's endorsement. Personally, I have no desire to continue the thankless task of struggling against opposition to place the scheme upon a working basis; but feeling beyond all doubt that it is capable of great advantage to the university, I am unwilling to withdraw my support from it so long as there is any chance of its being proceeded with. At the same time I desire the senate to understand that, though willing to continue in such connection, I would infinitely prefer being relieved from any such further duty, and shall cheerfully make way for another to take my place.

I remain,

Your obedient servant,

Toronto, May 25th, 1893. (Signed) W. MULOCK.

BRITISH COLUMBIA MEDICAL COUNCIL ELECTION.

To Dr. G. L. Milne, Registrar of British Columbia Medical Council:

SIR,—The following is extracted from a letter received by one of the undersigned from a practitioner in the province:

"I am in receipt of your letter of the 29th ult., asking me for my vote in the coming election of members to the Medical Council. I have received from Dr. Milne under one cover a receipt for the payment of this year's dues to March, 1893, a voting paper, and a list of candidates in the coming election to the Medical Council, to be held on the 24th inst. The list does not contain your name or that of a certain other practitioner who has recently solicited my vote for the same election. I presume there must be some arrangement of balloting among the candidates to determine who is to retire from the contest. As there is no time to ascertain as to this, and record my vote before the election, I have made a selection from the list submitted to me. I will add that the list had nine names, and that the only writing the document has on it besides the names is the sentence 'only vote for seven.'"

It is readily seen from the above that this gentleman considered the "list of candidates" sent by you to him to be an *official* list of those from whom a selection had to be made. This was the direct outcome of your sending it to him. Whether you intended to create this idea or not is, of course, best known to yourself. It must be well known to you that every qualified practitioner is in one sense a candidate for election, for many men have received votes at the several elections held who have never expressed their desire to serve on the council, yet had they been elected would not have declined to act. But your furnishing such a list has in this instance (and may have done so in many others) had the effect of leading this practitioner into the belief that only those named by you were eligible for election. Had this list been sent by you as a "ticket" in an official manner, there would have been less to find fault with; but inasmuch as you sent it under the same cover as official documents, the whole was deemed official, and treated as such.

Moreover, it is our opinion that it would not have been in the best taste under any conditions for the *registrar* to issue such a list. It must have been apparent to you that you would be giving a false air of authority to an action that is certainly not one of the duties of the *registrar*, as laid down in the Medical Act. We feel we would be lacking in our duty to the profession were we to neglect to give this expression of our dissatisfaction at the line of action taken by you, which we consider deserving of a strong reprimand, not only from us, but from the council, and the whole profession in the province; for the abuse of office, or even the appearance of it, is not one of the features that should characterize the registrar of the Medical Council.

(Signed) E. A. PRAEGER,
MARK S. WADE.

P.S.—It is our intention, to which we retain the right, to publish this letter.

May 6th, 1893.

Medical Items.

DR. C. A. TEMPLE has commenced practice on Spadina Avenue, Toronto.

DR. ROBERT WILSON, formerly of Morden, Man., died at Vancouver, B.C., May 25.

DR. J. H. COLLINS has returned from Europe, and will shortly locate in Chicago.

DR. HUGH WATT, M.P., Cariboo, B.C., (Vict. '80) was in Toronto for a few days in May.

DR. FRED. A. ROSEBRUGH (Tor. '92) is at present with Mr. Lawson Tait at Birmingham.

DR. W. OLDRIGHT, Toronto, spent a couple of weeks in Chicago, going there about June 1st.

DR. J. E. PICKARD, of Virginia, Nev., was married to Miss Collier, of Point Edward, Ont., May 24.

DR. P. P. Burrows, Lindsay, and Dr. J. T. McKenzie, Trenton, have been appointed associate coroners.

DR. W. H. GROVES, of Burnhamthorpe, has gone to New York to spend some months in the Polyclinic.

DR. DANIEL CLARK, of Toronto, has been elected vice-president of the Medico-Legal Society of New York.

DR. BRUCE RIORDAN, of Toronto, attended the meeting of American Railway Surgeons, held at Omaha.

DR. G. R. McDONAGH, of Toronto, left home, June 14, for an extended trip, and will be absent from his office for two months.

DRS. T. G. RODDICK and JAS. STEWART have been appointed on the active staff of the Royal Victoria Hospital, Montreal.

DR. JOHN A. SCOTT, of Maxwell, Ont., went to Chicago, June 10th, to take a post-graduate course, and also visit the World's Fair.

DRS. G. F. McKEOUGH and R. N. BRAY were elected president and secretary of the Chatham Medical Society at its last meeting.

DR. HAROLD C. PARSONS, late of the Toronto General Hospital house staff, has gone to Mount Airy, Md., to take charge of the Garret-Hospital.

DR. W. H. B. AIKINS has been appointed physician on the staff of the Toronto General Hospital, in the place of Dr. Burritt, placed on the consulting staff.

DR. PRICE BROWN, who has been in New York attending the annual meeting of the American Laryngological Association, returned to this a city few days ago.

AT a regular meeting of the senate of the University of Toronto, held May 26th, Drs. B. E. McKenzie and Frederick Winnett were appointed demonstrators of anatomy.

DR. A. F. MAVETY, who practised at Kingston for two years after graduating in 1890, has been appointed professor of the practice of medicine in the Toledo (Ohio) Medical College.

DR. J. H. McCASEY, of Concordia, Kansas, who was elected last April to the position of medical superintendent of the Topeka State Asylum, of Kansas, spent a few days in Toronto early in June.

A SAD accident happened at Cataraqui Bay, near Morrisburg, May 21, whereby Dr. Hector Macdonald, one of this year's graduates from Queen's University, lost his life through drowning from a sail-boat upset.

DR. GEORGE H. ROHÉ, of Catonsville, Md., superintendent of the Maryland Hospital for Insane, was elected president of the Medical and Surgical Faculty of Maryland at the recent annual meeting, held April 25-28.

THE following are the new house staff of the Toronto General Hospital for the coming year: Drs. Harvie, Fulcher, Touch, and Peters, of the Medical Faculty of Toronto University; and Drs. Glaister, Bird, Burrows, and Tomlinson, of Trinity Medical School.

AT the last meeting of the Toronto Medical Society the following officers were elected: President, Dr. J. F. W. Ross; 1st vice-president, Dr. W. . Greig; 2nd vice-president, Dr. J. Spence; recording secretary, Dr. J. N. Brown; corresponding secretary, Dr. E. H. Adams; treasurer, Dr. G. A. Carveth; members of the council, Drs. H. J. Machell, A. B. Atherton, and G. Gordon.

THE following officers were elected at the last meeting of the Toronto Clinical Society: President Dr. L. MacFarlane; vice-president, Dr. G. S. Ryerson; recording secretary, Dr. Edmund E. King; corresponding secretary, W. H. B. Aikins; treasurer, Dr. A. B. Atherton; members of executive, Drs. A. A. Macdonald, A. H. Wright, Allan Baines, F. L. Grasett, and A. J. Johnson.

AT the last meeting of the American Gynecological Society the following were elected to office: President, Dr. Lusk, of New York; vice-presidents, Dr. S. C. Busey, of Washington, and Dr. Bache Emmet, of New York; treasurer, Dr. Matthew D. Mann, of Buffalo; members of council, Dr. Chadwick, of Cleveland, Dr. Reynolds, of Boston, and Dr. Baer, of Philadelphia.

THE appointment of Dr. George M. Sternberg, as Surgeon-General of the United States Army, is gazetted. Dr. Sternberg was fifteenth on the roster, but in the army to the south of us that does not count. There is one thing sure, that there is no more representative man, no more scientific investigator, than Dr. Sternberg on the army staff; but it can hardly be called just to pass over the so many of his seniors.

COUNCIL EXAMINATIONS, 1893.—The following speaks for itself: *Primary:* Passed, 112 candidates; of whom 63 were students of the University Medical Faculty. 52 per cent. of all the students passed, while 73 per cent. of the University Faculty did so. *Final:* Passed, 85; of whom 42 were students in the University Medical Faculty. In this examination 73 per cent. of all the students passed, while 85 per cent. of the students of the University Medical Faculty did so.

AT the annual meeting of the Toronto Medical Society, held May 25, the following officers were elected: President, Dr. James F. W. Ross; 1st vice-president, Dr. W. J. Greig; 2nd vice-president, Dr. J. Spence; recording secretary, Dr. J. N. E. Brown; corresponding secretary, Dr. E. H. Adams; treasurer, Dr. G. A. Carveth; council, Drs. Machell, Atherton, and G. Gordon. At the same meeting the retiring president, Dr. N. A. Powell, presented the society with a handsome portrait of Dr. Oliver Wendell Holmes, of Boston.

MEDICAL ALUMNI'S OFFICERS.—The Medical Alumni Society of Toronto University has elected these officers: Dr. E. E. Kitchen, St. George, president; Drs. A. A. Macdonald, L. McFarlane, E. J. Barrick, John Ferguson, of Toronto, and F. A. Eccles, of London, vice-presidents; Dr. Bruce Riordan, treasurer; Dr. W. Harley Smith, secretary; Drs. J. D. Thorburn and Edmund E. King, auditors; Drs. Adam H. Wright, B. Spencer, Edmund E. King, J. D. Thorburn, W. H. B. Aikins, James McCallum, C. J. Hastings, George Peters, E. Herbert Adams, and George Carveth, members of the council.

DEATH OF MR. MARCUS BECK.—We deeply regret to announce the death of Mr. Marcus Beck, Professor of Surgery at University College, London, which took place at Isleworth on Sunday, May 21st. Though it was known to most of those who were well acquainted with him that he had for many years been the subject of diabetes, the end came with a suddenness which made the shock of his loss all the more grievous to the members of his family and to his friends. The immediate cause of his death was diabetic coma supervening on influenza. He was forty-nine years of age. Marcus Beck was not only an accomplished and thoroughly scientific surgeon, but a man of wide and varied culture, and of singular personal charm. In him the profession has lost one of its ablest and most high-minded members.—*British Medical Journal.*

HEALTH OFFICERS' CONVENTION.—The annual meeting of the Association of Health Officers of Ontario will be held at Guelph, Ont., on June 27 and 28. The association is composed of medical health officers, engineers, members of local boards of health, and associate members, consisting of all citizens who may wish to take part in the discussions. Special rates of railway fares and hotel expenses will be arranged, and all delegates are requested to communicate with Dr. Bryce, secretary of the Provincial Board of Health, as soon as possible. Among the papers to be discussed are the following by Toronto well-known physicians: "Dangers of a smallpox epidemic and necessity of a general vaccination," by Dr. Bryce; "Diphtheria epidemics and how principally propagated," by Dr. Hodgetts, Toronto; "Toronto water supply," Dr. J. J. Cassidy, Toronto; "Diseases in Canadian cattle," J. J. McKenzie, B.A., Toronto; "The epidemological aspects of outbreaks of specific diarrhœa," by Dr. Norman Walker, Toronto; "Some systems of sewerage and sewage disposal that are available for Ontario cities," A. Macdougall, C.E., Toronto.—*Toronto World.*

RESULTS OF THE FINAL EXAMINATIONS OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.—The following candidates have passed the final examinations of the College, May, 1893: Honors—H. C. Bird, Barrie. Passed—J. H. Austin, Brampton; R. D. Alway, Grimsby; F. J. Ball, Rugby; W. F. Brown, Medina; W. J. Burrows, Lambeth; J. Bowie, Embro; R. Brodie, Claremont; Minnie M. Brander, Priceville; F. Blanchard. Sutton; R. F. Bruce, New Lathrop, Mich.; W. Chambers, Toronto; L. H, Campbell, Bradford; N. Campbell, Cookstown; T. W. Carlaw, Warkworth; R. M. Calder, Grimsby; J. E. Countryman, Tweed; J. K. Creighton, Nilestown; J. H. Duncan, Emery; R. E. Darling, Warkworth; T. Douglas, Harriston; W. Doan, New Sarum; W. Elliott, Mitchell; T. B. Fletcher, St. Thomas; J. K. M. Gordon, St. Helens; W. Glaister, Crosshill; J. L. Gibson, Cherry Valley; E. E. Harvey, Newry; J. R. Hopkins, Stony Creek; J. N. Harvie, Orillia; H. K. Hyndman, Exeter; J. A. Henderson, Orangeville; H. J. James, Clayton; F. H. Koyle, Brockville; W. H. Lambert, Arnprior; J. E. Lehman, Orillia; C. J. Laird, Guelph; J. A. Locke, Brimston Corners; A. Lockhart, Sydenham; F. Martin, Erin; R. E. Macdonald, Stratford; P. J. Motoney, Ennismore; W. S. Macdonald, London; H. F. Mackendrick, Galt; R. S. Mines, Kingston; J. E. Murphy, Newboro; J. R. Mackenzie, Toronto; W. F. Meikle, Cowansville; D. Marr, Ridgetown; J. Moore, Bath, Mich.; W. J. Mackenzie, Warwick; J. H. McGarry, Niagara Falls; G. McGrath, Campbellford; K. McLennan, Dunvegan; A. H. Nicholl, Listowel; W. E. Olmstead, Ancaster; J. B. Peters, Toronto; H. D. Pease, Toronto; F. W. Perritte, Toronto; J. M. Rogers, Toronto; J. T. Robinson, Collingwood; A. F. Rykert, St. Catharines; R. F. Rorke, St. Thomas; J. W. Smuck, Renforth; T. E. South, St. George; H. H. Sanderson, Sparta; E. H. Stafford, Chicago; J. C. Stinson, Brantford; S. G. Storey, Cedar Springs; J. H. Shouldice, Hamilton; R. G. Smith, Perth; A. B. Singleton, Perth; A. B. Singleton, Newboro; P. D. Tyerman, Toronto; C. J. Taylor, Toronto; E. Tomlinson, Brantford; C. W. Thompson, St. Marys; W. H. Tufford, Toronto; A. H. F. Tegart, Schomberg; H. A. Wardell, Dundas; J. J. Williams, Tottenham; J. A. G. Wilson, Warkworth; W. F. B. Wakefield, Thorold; D. D. Wickson, Toronto.

OBITUARY.

O. S. WINSTANLEY, M.R.C.S. ENG.—Dr. Winstanley was for many years one of the best known and most highly respected practitioners of Toronto. On account of poor health he left Canada, and lived for several years at Santa Barbara, in Southern California.

MEDICAL EXAMINATIONS.

TRINITY UNIVERSITY.

Final Examinations for M.D.C.M.—W. Glaister, T. Douglas, J. C. Stinson. E. Tomlinson, R. E. Macdonald, J. T. Robinson, C. H. Bird, F. J. Burrows, D. J. Dunn, R. Brodie, F. W. Mulligan, J. K. M. Gordon, P. J. Moloney, W. J. Ross, R. J. Corbett, J. A. G. Wilson, J. H. McGarry, R. King, W. A. Thomson, N. Campbell, J. H. Austin, W. F. Wakefield, J. H. Hudson, F. G. E. Pearson, W. T. Arnott, A. F. Rykert, J. J. P. Armstrong, C. W. Beemer, W. Doan, H. McKendrick, T. W. Carlaw, J. E. King, W. W. Andrus and J. R. Roseborough (*æq.*), J. B. Ferguson and J. M. Rogers (*æq.*), Miss M. M. Brander, F. J. Ball, C. Carter, L. Lapp, R. J. Teeter, R. S. Dowd, J. R. Bingham, D. D. Wickson, C. J. Taylor, W. H. P. Tufford, H. H. Alger, I. Bowie, R. E. Darling, C. J. Laird, J. H. Duncan, R. D. Alway, S. H. Large, A. B. Singleton, J. R. Hopkins, Miss E. J. Ryan.

TRINITY MEDICAL COLLEGE.

Final Fellowship Degree.—Charles Harold Bird, John Coplin Stinson Wm. Glaister, Edward Tomlinson, Francis James Burrows, Fred. Wm. Mulligan, Thomas Douglas, Ralph Brodie, David J. Dunn, Robert Elgie Macdonald, J. T. Robinson, William A. Thomson, Warren Doan, Innes T. Bowie, R. T. Corbett, J. R. Roseborough, R. J. Teeter, J. A. G. Wilson, R. A. S. Dowd, T. W. Carlaw, W. J. Arnott, J. J. P. Armstrong, H. H. Alger, J. R. Bingham, C. Carter, N. Campbell, R. E. Darling, J. B. Ferguson, J. E. King, Robert King, S. H. Large, W. J. Ross, D. D. Wickson, J. H. Duncan, A. B. Singleton.

Dr. Sheard's prize in Physiology—F. G. Wallbridge. Dr. Ryerson's prize in Applied Anatomy—F. J. Burrows.

Scholarships.—The 1st first year's scholarship, $50, J. R. McRae; the 2nd first year's scholarship, $30, J. H. Oliver; the 3rd first year's scholarship, $20, A. V. Hart and W. H. Weir (*æq.*); the 1st second year's scholarship, $50, J. C. Hutchison; the 2nd second year's scholarship, $30, Frederick Parker.

Medals.—The second Trinity silver medal, William Glaister; the first Trinity silver medal, John Coplin Stinson; the Trinity gold medal, Charles Harold Bird.

TORONTO UNIVERSITY.

Final Examinations for M.D.—H. A. Bruce, M.B.; C. J. McNamara, M.B.

Degree of M.B.—R. D. Alway, F. J. Ball, C. W. Beemer, F. Blanchard, W. F. Brown, R. M. Calder, T. Coleman, B.A., G. S. Glassco, F. E. Grant, J. R. Hopkins, C. J. Laird, W. H. Lambert, W. J. McKenzie, J. A. McMillan. B.A., J. A. McNaughton, F. Martin, W. E. Olmstead, F. G. E. Pearson, J. M, Rogers, A. F. Rykert, B.A., H. H. Sanderson, J. H. Shouldice, E. H. Stafford, H. A. Wardell, J. A. Armstrong, J. H. Austin, W. Chambers, W. Elliott, T. B. Futcher, E. E. Harvey, J. N. Harvey, B.A., V. W. Hill, J. E. Lehmann, D. McAlpine, J. H. McGarry, H. F. McKendrick, J. R. Mackenzie, D. Marr, A. H. Nichol, B.A., W. F. Park, H. D. Pease, J. B. Peters, F. W. Pirritte, T. E. South, S. G. Story, C. J. Taylor, C. W. Thompson, P. D. Tyerman, W. F. B. Wakefield, J. J. Williams.

MEDALS AND SCHOLARSHIPS.

Faculty Medals.—Gold, J. N. Harvey, B.A.; silver, 1st, T. E. South; 2nd, W. Elliott; 3rd, T. B. Futcher. E. E. Harvey, equal, subject to the granting of a second medal by the Faculty of Medicine.

Scholarships.—Third year, 1st, W. J. McCollum; 2nd, J. H. Bull. Second year, 1st, T. W. G. McKay; 2nd, J. R. Lancaster. First year, 1st, W. Goldie; 2nd, E. L. Roberts.

M'GILL UNIVERSITY.

E. D. Aylen, H. W. Blunt, W. E. Bostwick, J. A. Brown, J. D. Cameron, R. W. Carroll, A. D. Coburn, M. A. Cooper, W. E. Deeks, B.A., T. A. Dewar, G. F. Dewar, Edward DuVernet, G. W. Fleming, H. M. Goff, B.A., F. B. Gunter, B.A., M. Haight, M. K. Hall, J. A. Henderson, R. W. Jakes, W. H. Jamieson, J. W. Lawrence, W. Lindsay, A. D. McArthur, R. B. McKay, B.A., S. R. McKenzie, K. McLennan, W. McMillan, R. F. McMorrine, C. H. Masten. R. Matheson, W. C. Mills, J. M. Moore, R. H. Phillimore, R. F. Rorke, J. W. A. Seguin, J. W. Scane, E. J. Semple, B.A., G. F. Shaw, T. P. Shaw, J. E, Tomkins, J. L. Walker, J. T. Whyte, B.A., R. Wilson, C. A. Yearwood, B.A., H. B. Yates, B.A.

Mr. T. W. Hewitson has passed all the examinations required for the degree of M.D., C.M., but is not of age. He will receive his degree on attaining his majority.

QUEEN'S UNIVERSITY.

Final Examination for M.D.—G. H. Austin, A. N. Baker, B. F. Black, J. E. Countryman, J. H. Cormack, J. J. Gibson, J. L. Gibson, G. C. Giles, H. J. James, N. P. Joiner, J. A. Locke, Miss M. Leavitt, R. S. Minnes. M.A., W. G. Malcolm, J. E. Murphy, H. McDonnell, G. McGrath, M. J. Neville, A. C. Robertson, F. S. Ruttan, Miss C. Ryae, R. G. Smith, W. Walkinshaw.

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